The Builder.

VOL. XXI.—No. 1062.

The Architectural and Horticultural Decorations of Kensington Gardens.

IN our public parks and gardens we have nothing to show that can be compared with those of Versailles, the Tuileries, the Luxembourg, or even the Garden-Park of Brussels, if the adjuncts of statuary, fountains, and imposing architectural features are to be taken into consideration. Yet, in the lofty and luxuriant woods of Kensington, with the fresh green glades that extend far and wide beneath the shading branches of the noble trees, and in the spacious grandeur of the Broad Walk, we possess that which our foreign visitors allow to be unique as a metropolitan promenade.

At this season Kensington Gardens are in all their glory. The white and red hawthorns are covered as thickly with their bloom as in woods twenty miles away from the smoke of London; the double red and double white varieties being trees of goodly size; and they not only fill the scene with beauty, but at the same time scatter through the fresh spring air the fragrance of their exquisite perfume. Then there are the lofty horse-chestnuts, drawn up in the masses of the woods to a picturesque and lofty height, sprinkled, a week ago, to the very tops with their noble spikes of flowers that made them look like forest trees covered with the bloom of hyacinths. At this early season, too, all the foliage is still unsullied by those dusky hues which so quickly deaden the brightness of the various shades of young and tender green of the unlucky trees which expand their summer vestment in too close proximity to a vast aggregation of countless chimneys, whose copious outpourings of the dingy smoke of our coal fires make the summer brilliancy of London foliage so very brief. While, however, the foliage of Kensington Gardens retains its freshness, it is perhaps unrivalled, at all events unsurpassed, by that of any metropolitan promenade in Europe. But its chief beauties do not result from the works of the present generation, nor even from the care of recent management,—they are the consequence of the care and taste exercised by the artistic planters and distributors of the ground in the last century. It will not, therefore, be uninteresting to examine the present state of the gardens, with the view of ascertaining whether the most is now made of the inheritance that has come down to us.

As regards the architectural decorations, the first attempt in our day was the erection of the bridge over the Serpentine, some thirty or forty years ago, and this is still the best modern architectural feature in the gardens. It is simple in character, and its regular and undisturbed lines contrast pleasingly with the varied forms of the surrounding foliage. The almost unbroken lines of very simple architectural structures are always pleasing in contrast with the irregular forms of untrimmed woods, and the elliptic arches of this bridge, have, at the same time, a free and flowing air, which seems to harmonize more softly with water than the more cramped form of the semi-circular arch. The recent constructions at the head of the river are far less happy in their effect. They are too confused in their main outline, much over-ornamented and broken up in effect, and consequently do not offer a satisfactory contrast to the intricate outline of the surrounding foliage by the exhibition of simple and continuous lines. A little has been attempted in the way of statuary as a decorative feature in these last-named arrangements, but not felicitously. The unhappy Jenner, banished from Trafalgar-square, seems exercising a kind of forced presidency over some abortive attempt at a water-cure, in a far from attractive manner; instead of which a few groups, not portraits, but of fanciful and poetic character, would have been far more in place. It is a site that might be fittingly enough decorated with statuary of the kind suggested, but is not a situation for the memorials of national worthies, either medical, military, or Mediæval. There are other parts of the gardens in which statuary either of a poetic or iconic character might be introduced with much better effect. Even good casts, in frost-proof cement, from some of the finest works of antiquity might be, if well placed, of great value as decorative features; but works, original works, from the chisels of living native artists would, of course, be far better. The site which lends itself with singular advantages to the introduction of statuary of a high class is the Old Broad Walk.

A series of statues on each side, at suitable distances, along the wide strip of turf in front of the open masses of trees, would produce a very noble effect; and the mere matter of cost is by no means an insuperable objection. In the line of this walk, too, opposite the palace, and between the walk and the round pond, is a proper site for a grand fountain. Not a little tazza, with a small squirt in the middle; nor yet, on a larger scale, a basin surrounded with a moulding, and having the squirt principle multiplied into several additional squirts; but a really fine work of art;—a composition in which the highest efforts of the sculptor and the architect should be blended, in a manner worthy of a national work. Instead of such an object, we have, in the present state of this part of the gardens, the view of an old brick house, by courtesy called a palace, which, as the American traveller said of the Roman ruins, is wretchedly out of repair. Even the grass plots in front of the building are only fenced in by some ragged privet hedges, full of gaps, which would be a disgrace to a third-rate tea-garden.

To this it may be added that a very squalid portion of the kitchen gardens of the establishment are in full view, where a straggling gardener or two may generally be seen at work, in covering or uncovering with worn-out tarpaulin, a very unregal range of cucumber frames. Turning away from these examples of the present mode of managing this beautiful national domain, and looking in an opposite direction, across the round pond, the spectator perceives a specimen of landscape gardening of the old grand school, which has come down to us in all its perfection of full growth, and all the beauty of ripe maturity; and only seems waiting to be turned to good account by the hand of an English Le Notre of the present day, if he is to be found. The three openings in the wood, which from this point are seen diverging from the wide space of green surrounding the pond, bear the true stamp of the high and large school of garden-art which produced the stately effects of the great gardens of Versailles, yet with the tone of far greater simplicity of treatment, and a wholesome feeling for more natural effect, which distinguished the English school of landscape gardening from the days of the Browns to those of the Reptons; and this national peculiarity must not be lost sight of while seeking the introduction of suitable decoration. We must not have terraces of brick, and stone, and marble, and balustrades, and steps, and gravel, and pavement, and countless other features of the same class, to the exclusion of trees and turf, and flowers; but, the terrace, with its architectural dressings; and statuary, with its suitable accessories, must play a subordinated part to the existing features of the scene, in their present character, as specimens of nature reduced by art to certain regular forms, whether of mass or detail. The terrace-work, if any were introduced, should emanate from the grand architectural composition of the fountain, which should emphatically form its central object of any architectural dressing in this part of the gardens, as the plash of masses of falling water, would form a blending link with the natural features beyond. Statuary would find its proper place, alternating with noble vases of grand design along the old and new Broad Walks; and stone summer-houses, similar in style to the old one which still exists in tolerable repair in front of a mass of trees not far from the bridge, might be introduced as terminal objects to the great masses of wood which form the noble glades that radiate from the pond; but then they should be superior to the old model. Such an object is capable of great beauty.

The main enclosure of the gardens, especially that which separates their southern boundary from Hyde Park and the road to Rotten-row, ought also to receive artistic attention, and be made worthy of the most important and beautiful of our public promenades. The new gates on that side of the garden are well executed. But then there is a poor little hovel by way of a lodge actually in sight of this gate, and the old palisading forming a continuation to that on each side of the gates is wretched indeed, and quite unworthy of the situation.

The most successful piece of pure horticulture carried out under the recent management of the gardens is the new walk with plantation of trees, shrubs, and flowers, leading from the Kensington end of the Broad Walk to the Rotten-row entrance to the gardens. The walk is about 15 feet wide, and is formed of fine shingle, the light creamy tone of which is very agreeable; and when, in the bright morning sun, the shadows of the larger trees and shrubs cast a soft grey chequering across it, at intervals leaving irregular spaces of bright light between, the effect is very charming. A week ago (and perhaps still), the perfume of abundant wall-flowers, mingling with that of the hawthorn in full bloom, lent an additional charm to this beautiful walk, the borderings of which are in a thriving and healthy state. Promenaders are induced to linger long in this pleasant place, not only by the interest which the attached names of all the trees afford, but also by the exceedingly luxurious resting-place, in the form of handsome benches, the seats and backs of which are contrived in a leaning position, just at the angle which affords the most agreeable support. In speaking of the interest which the public evidently take in the attached names of the trees and shrubs, none of which are without their ticket, it should be remarked that there are several herbaceous plants in flower which at once attract attention, and which have no attached name at all. This is an omission which ought to be supplied. It may, however, be considered that, as the season has scarcely yet arrived for putting out the bedding plants and other border plants, the few herbaceous perennials now in flower may have tickets with names attached when the whole summer show of border flowers is exhibited.

So far the horticultural management may be said to be successful; but to other parts of the gardens the same remark cannot be applied. It is especially in situations which are favourite ones with the public that neglect and mismanagement seem to have occurred. The aspect of water, for

instance, is always attractive, especially when enlivened by the movement and striking plumage of various kinds of waterfowl; and it is, therefore, to the banks of the river that a large number of the promenaders in Kensington Gardens direct their steps. Yet here we find, instead of horticultural care, the utter wretchedness of squalid neglect. The south side of the water, from the bridge to the head of the river near to the Bayswater-road, which might be made the pleasantest part of the Gardens, is a mere scene of desolation. Some of the rhododendrons, it is true, are in a thriving state, and the aspect of a healthy bush of hardy rhododendron, merely as an evergreen shrub, without reference to its gorgeous blossom, is very pleasing; but only the perfectly hardy kinds are available for such a purpose. Yet in these plantations it would seem that some of the tenderest varieties have been tried, and the consequence is that they are in a dead or dying state, and produce a most wretched appearance. In most cases the dead plants remain, utterly destroying the agreeable aspect of the living ones; while in other cases they have either been removed, or have rotted away, leaving blanks almost as unsightly as the blackened skeletons just alluded to. The whole of the ground between the shrubs in the plantations has evidently not been dug, or even hoed and raked this season; and the wrecks of plants of last year's growth, decaying leaves, and a few rank weeds growing between, are sad evidences of neglect. It may be asserted that the aspect and general character of the situation is not favourable to flower culture, which one looks for in the front of these masses of shrubs; but the luxuriant growth of a few self-sown foxgloves show what a good effect might be obtained by the introduction of a few hardy herbaceous plants, if well selected with reference to the situation. Even if this were deemed impracticable, surely a little trim neatness might be managed without an over-exercise of ingenuity or outlay; but instead of this we find the reverse; and wherever the shrubberies cease and the green turf is allowed to extend to the water's edge, it is sadly broken up, and in a bad state.*

In addition to these defects, there is another in the management of this part of the Gardens, which arises from an impracticable attempt to establish a series of plant nurseries, for the general use of the parks, in this part of Kensington Gardens. Here we have, therefore, between the patches of neglected shrubberies (which might with more care be made very ornamental) small plantations of holly, privet, laurustinus, hawthorns, box, or pots of ivy—looking as miserable as it is possible to conceive—so miserable, that a nurseryman would at once cast them out, as worse than valueless, considering their aspect alone as detrimental to his credit as a cultivator. These hopeless attempts at creating stock plantations of young trees and shrubs at Kensington should be at once abandoned. The plants necessary for the continual renewals that must necessarily take place in metropolitan gardens should be reared in the purer air of Windsor or Hampton Court, where a few acres could easily be set apart for such a purpose, as well as for raising a succession stock of border flowers to keep the fronts of the shrubbery and the flower-beds continually fresh and gay throughout at least nine months of the year.

We have in Kensington Gardens not only a site, but also the great first elements of a public garden, in the shape of fine trees and beautiful turf, to enable us, under efficient management, to create the most beautiful public metropolitan garden in Europe; but at present, where nature and the original planting have done so much, the present management, and the available artistic talent of the day, have not done enough,—certainly not all that the public has a right to expect.

* Since this article was written, some geraniums have been planted here.

FOR ARCHITECTS AND SURVEYORS: ASTRONOMY.

MEMBERS of a profession or calling who aim at success through restricting themselves to study of what seems to relate only to the calling, must almost necessarily be narrow-minded men. They can never take high rank in professions enlisting, and requiring, exercise of mind. These have objects and aims that change with every fresh demand for services of the professor. The workman who has made pins' heads for the best years of his life, without thinking of another craft, will simply be thrown into starvation one day by the invention of a machine. But the architect, or follower of one of the so-called learned professions, must hold that there is *nothing foreign* to him; or scarcely can he be architect, or useful member of either of the "faculties." Practical architect, this day he is appealed to in some matter which presupposes his knowledge of the sciences,—geometry and mechanics, geology, chemistry, those relating to the motions of fluids, and others assumed to have been mastered as the foundation of his structural skill: artist-architect he should hardly be ignorant of optics, more than of the history of architecture and the examples. But, even yet, the sum stated of his requirements is not complete. No scheme of education issued from institute or college, concerns itself with, or could take in, the whole of that "liberal education" which is the office of the higher order of schools; and of which the theory may be described, scarcely with exaggeration, to be that of imparting, besides the primary education and the knowledge of languages, an acquaintance with the rudiments of everything. So much of this education as would enable the future man to "interest his heart in everything" that became the question of *experts*, or the topic of sections in an association or a congress, ought to be common in schools and colleges; yet, much as these have progressed since the period once spoken of by a nobleman who has been prime-minister of England, as the "pre-scientific age" in which he had been educated, we fear such modest standard has not been entirely reached.

The various branches of natural history, the laws of thought, the principles of political economy and monetary transactions, agriculture and the production of food and clothing, and the chief processes of manufactures, should have an entrance opened to a knowledge of them in early life. Each of these departments of information, he would be a bold man who would say it could not concern the professor of whatever calling, to be in the position to take up and pursue. We presume to say of one science, astronomy, of all, the grandest, that it is one which even the architect cannot creditably or wisely hold as foreign to him.

Suppose a being endowed with the utmost conceivable human powers of observation, thrown on this earth, what would be the first subject of his contemplation? The heavens. Conceive his powers to comprise the knowledge that it has been permitted to accumulate; and could there be an art, or anything belonging to nature in a single planet, that should mix with his admiration of the universe beyond, unless it be the creation of that mind which has been able to measure the distances and periods of time computed by astronomical science. To have elaborated proofs of the rotundity of the earth, of its magnitude, its rotation on its axis, and its motion round the sun, to have found means of determining longitude and latitude by observations of time and the heavenly bodies, to have accounted for the seasons and climates, and changes of day and night, to have measured every dimension of length or distance from the earth, a moving object, and to be able to predict the recurrence of phenomena, to a second of time: these are some of the achievements of a science which has had one great architect amongst its professors.

There is an eminent member of the Chancery bar, who was once heard to say that he did not know the use of astronomy. Perhaps he did not know of the "Nautical Almanack," the handbook of the seaman, which has to be compiled always some years in advance; or that it is by astronomical observations founded on the truths discovered by astronomers, that, as much as by the compass, voyages out of sight of land are made. But, sad would be the future, and wasteful the use of powers that have been consigned to man, should all research into Nature's laws be abandoned, except that of which the immediate utility could be proved. It might not all at once add to the happiness of humanity, to show that the earth's antiquity is not less than 100,000 years; and the world may have got on very well up to the time at which it was discovered there was a planet distant from the sun upwards of thirty times the 95 millions of miles which the earth is, and requiring 164½ years to complete the circle of its orbit. Science is not in a healthy condition unless pursued for the reward merely of satisfaction in the unfolding of truth, or unless the lesson of humility comes with the contrast between the ever-widening area and the human power that seeks to penetrate the unknown. As discipline for the mind in every sense, there is probably no study which can take higher rank than that of astronomy, founded as it is on precision of observation, and on that geometry which has been called the soul of our own art. The astronomical and architectural pursuits of Wren had, doubtless, a near relationship.

There is, however, one department of astronomy mingling with geography, which is important to the surveyor, and of which, therefore, the knowledge is something more than elegant accomplishment for the architect. This branch of science has been named, probably in Germany, and not quite satisfactorily, mathematical geography. It includes all that is ordinarily taught in schools as the use of globes, and something more, as for instance the different projections of the sphere used in the construction of maps. This entire subject is treated of in a small volume which is now before us.* The work originated in a want noticed by Mr. Laurie, of a compendium in the English tongue, distinct from the matter which might be found interwoven with the details of astronomical science in the works of some writers, as Herschel in his "Astronomy;" where, however, as allowed, the foundation of the subject has been expounded in a full and masterly manner—though chiefly for the use of the advanced student. Other writers, or most of them, says Mr. Laurie, had confined their attention to some department, as that of map-projections, without entering on the subject as a whole. A distinct work, in Germany, Brettner's "Mathematische Geographie," was found; and the first idea seems to have been that of a translation. Mr. Dick, however, who undertook the task, finding deficiencies in Brettner, merely adopted it as a basis for a new work in which he drew assistance from the best sources in English, French, and German. The result is certainly a valuable text-book or work of reference.

The author does not profess to have "popularized" the subject according to the current notion expressed by the term. Mr. Laurie urges, with truth, that though salient points may be presented in a form to save trouble, the reader may fall under the delusion that he knows the facts nearly as well as if he had undergone the trouble; and that the "method of procedure—unfortunately, not seldom adopted—seems to be admirably calculated both to enfeeble the intellectual powers, and also ultimately to destroy in earnest minds every particle of genuine interest in the subject."

Various matters explained are, preliminarily, the chief lines and points in the heavens, and the apparent movements of the sun, moon, and stars, and afterwards the several proofs of the earth's rotundity; the points, circles, and positions, on the celestial sphere, and those on the surface of the earth, with the method of determining the position of a star and the longitude and latitude of a place; the magnitude of the earth, and the mode of measuring an arc on the surface, and that of triangulating; the rotation of the earth on its axis, including the proofs derived from vibrations of a pendulum, and the eastward tendency of falling bodies; the motion of the earth round the sun, and amongst the proofs of it, one derived from the aberration of light, and another from analogy of the movements and phases of Venus; the elliptic form of the earth's orbit, and the laws of Kepler; and the phenomena resulting from the earth's form and motions. Chapters also are devoted to Refraction and Twilight, to the Moon, and to the Heavenly Bodies generally, and to descriptions of the Terrestrial Globe, and of maps and projections.

The numerous diagrams in the pages of the work, with only one or two exceptions, where letters of reference are omitted or misplaced,—as they are far too apt to be in popular scientific works,—are designed so as to be exceedingly serviceable to their object of explanation. Still, and with all the merit which the work has, it can scarcely be

* "A Compendium of Mathematical Geography: for the use of Students and Candidates for Public Examinations;" by A. H. Dick, M.A., Lecturer on Geography, Free Church Normal College, Glasgow; with a preface by J. S. Laurie. pp. xvi. & 238. London: Longman & Co., 1863.

deemed a substitute for the ordinary methods of instruction in the Use of the Globes, and for public lecturing, which so especially adapts itself to the work of instruction in astronomy. The book is one admirably fitted to lie next to such a manual as Keith's on the Use of the Globes; and it almost requires the globes to be at hand, as well as the aptitude in trigonometrical calculations which we would assume every architect to possess, in order that the matter which it contains may be followed and thoroughly understood. Greater prominence of the description of the artificial globe, aided by cuts, might have been given with good effect. But, as this Compendium is, the study of it by the class out of which our own readers are formed, may be richly rewarded.

Geography, according to Mr. Dick, is to be divided into three branches: mathematical, physical, and political. The first would treat "of the shape, size, and motions of the earth in space, and of the different phenomena resulting from these motions;" the second would regard "as its objects all the phenomena connected with the land, the sea, and the atmosphere;" whilst political geography would inquire "into the divisions of the earth's surface among men, and the constitutions, customs, and commercial relations of the states which these divisions form." Mathematical geography, therefore, as already shown, may be considered as a branch of astronomy; and we regard it as the especial merit of the present work, the having given to all who are like our friend the barrister, the opportunity of discovering that the observation of the heavens, and the determination of lines and points therein, are necessary to the understanding and description of the configuration and movements of the earth. The understanding is as necessary to the solution of problems of daily occurrence,—the phenomena of distant objects, and the difference of time by changes of longitude in travelling,—as it is to the surveyor or the navigator.

To determine exactly the position of a place, or object, requires the solution of three problems. These are:—1, to determine the direction of a meridian line, or plane of a great circle, crossed by the sun at noon: 2, to determine how far along that line, the place lies from the equator: 3, to determine how far, measuring along the equator, the meridian lies from the meridian of a certain other place. The meridian of the place may be found exactly with the aid of a telescope, a chronometer, and a sextant. With the sextant we note two moments, one before and the other after noon, when a star or the sun has the same altitude; the chronometer gives the interval of time, half of which is the moment of crossing. We can then determine the moment of crossing for the next day, and arrange a telescope, called a transit-instrument, so that at the instant next day, the star will be in the telescope-axis sweeping perpendicularly in the plane of the meridian. Having found the meridian, the latitude is determined by taking the sun's altitude when passing the meridian, deducing therefrom the zenith distance, finding the sun's declination or distance from the equator, on the day of observation (this is given in the Almanack), and taking for the latitude the sum or difference of these, according as the sun and the place or ship are on the same or different sides of the equator. The determination of the longitude resolves itself into the finding the difference of time between a place on the first meridian as that of Greenwich, and that of the place whose longitude is required, and allowing 15° to every hour, *eastward* if the time at the place be in advance of that at the first meridian, *westward* if it be behind.

To find the length of a degree of latitude in miles, in order to multiply it by 360, and get the circumference of the earth, we may find two places on the same meridian where a star stands one degree further from the zenith at one place than at the other, and measure the distance on the earth. But as the earth is flattened at the poles, the observation must be checked by others. The measurements along the earth can seldom be made, of any length, in one line; so that they have been made sometimes along several meridians, with junctions between the short lengths, at right angles; or the meridian line has been arrived at by triangulating about it from the datum of a short base line carefully measured at any suitable place, the height of the points of the triangles being reduced "to the horizon," and in cases where the sides of the triangles exceed fifteen miles, making a further correction for the sphericity, or rather ellipsoidity, of the earth, of which they partake. The States of the New World have adopted lines of latitude and longitude as their boundaries, rather than the lines of rivers or mountains. Surveyors in those states therefore, must be astronomers.

The understanding of the calendar, and not merely the knowledge of the period of, but of the reasons for, the change from Old to New Style, is not a matter without importance to the reader of the biography of architects, if not to the student of architectural history. Such knowledge may save him from some blunders. But into the explanation of this, and of the phenomena of the tides, and into that of the changes of the moon, we cannot enter more than by saying that there is given in each case explanation that may be valued by many of our readers; albeit in some of the matter amplification might have been usefully made.

The chapter on "Maps and Projections" will be found useful. A plane surface cannot be made truly to represent that of the earth, without foreshortening. Different methods or projections have been devised, to reduce the distortion as much as possible. These are enumerated by our author as five. The five are the orthographic, the stereographic, the globular or equidistant, the conical, and Mercator's projections.

The orthographic is as the name shows, the system of architects' drawings, and therefore is one that in the representation of a hemisphere, is almost useless as regards islands and continents which happen to fall near the edge of the circular space of representation. In plans of very small areas, such as are the chief business of the "surveyor," the distortions are not perceptible.

"In the stereographic projection," in the words of Mr. Dick, "the eye is supposed to be on the surface of one hemisphere, and looking inwards through the transparent globe to see the opposite hemisphere drawn, as it were, on an immense sheet of glass passing through the centre of the earth, just as we see the objects outside of a window apparently drawn upon the panes." In the stereographic projection, as contrasted with the orthographic, every circle or curve other than the meridional, or circle in the plane of the eye, becomes a circle or curve in the projection; and every spherical triangle on the surface, becomes a similar plane triangle. There is distortion, however, in the drawing of a hemisphere thus projected, parts at the circumference being magnified whilst those near the centre are diminished; but it is less than in the orthographic method, where the dimensions in the drawing are regularly lessened as the object is situated nearer and nearer to the circumference. Whether the projection be made on the plane of a meridian or that of the equator, the earth is taken to be a perfect sphere. In a stereographic projection of the sphere on the plane of the horizon of London, the eye is supposed to be placed at the antipodes of London, "and viewing the opposite hemisphere from within, in such a way that London occupies the centre of the field of view." Further explanation of this mode of projection would require to be given at some length, and with the aid of diagrams. Each of the methods ought to be within the knowledge of architects. But we may proceed to explain some of those which have been only named.

As already shown, the stereographic and orthographic projections, alike, do not represent equal spaces on the globe by equal spaces in the projection: the orthographic projection diminishes spaces as they approach the circumference, below their true proportions; the stereographic magnifies them. In the orthographic, as may be said, the eye is at such an infinite distance that the rays of vision are practically parallel; in the stereographic, it is supposed to be exactly on the circumference of the earth. Some station between these two positions of the eye has been sought, so that the projection would represent equal spaces on the globe by equal on the map. The object is *nearly* attained in a projection in which it is supposed that the eye is at a distance beyond the surface of the opposite hemisphere, "equal to the sine of 45 deg. on the circumference" of one of the great circles of the earth. "Such a projection is called the globular. In constructing it, those spaces on the plane which represent equal spaces on the globe are often made *exactly* equal to each other. In this case it is named the equidistant projection." In constructing a map of the eastern or western, or the northern or southern hemisphere, a circle is first turned; and diameters at right angles are drawn. The quadrants are divided each into nine equal parts, each part representing 10 deg. Each radius is also divided into nine equal parts. In the eastern or western hemispherical map, then, three points will be found given for the delineation of the parallels of latitude, the curves being segments of circles of which the centres are all on prolongations of the perpendicular meridional or central line. For the meridians right and left, segments are struck from centres which are on prolongations of the equatorial line, passing through the marked points on the radius, but cutting the circumference at two points, the poles. In the case of the northern, or southern, hemisphere, the parallels are struck as equidistant concentric circles, and the meridians are drawn as radii. The equidistant projection is that commonly employed in the construction of maps of the world. Its defect is that, although equal spaces on the globe are represented by equal spaces, and the proportionate *size* of different countries is preserved, still, lines, as the parallels and meridians which cross at right angles on the sphere, cross at different angles in the projection: therefore *shape* of the countries must be distorted. In the map of the northern or southern hemisphere, that is to say, the projection on the plane of the equator, the dimensions of countries near the equator are exaggerated in longitude.

In another system, the conical projection, a meridional line, as *datum*, is supposed passing tangentially to the sphere from a point above the pole; and, where it would touch, a circle on the sphere described by the revolution of the latter, is taken as the *datum*-parallel. In projecting the map of England, the meridian of 2° west longitude is chosen as a central meridian; and the 53rd parallel of latitude as the central parallel. The revolution of the globe, carrying the tangential line, would describe a hollow cone. If we suppose this opened out, the parallel-circle on the sphere will be represented by an arc of a circle in the developed cone. The parallels above and below, will however be larger on the cone than on the sphere, and the parts about them magnified. The difference however will be trifling when a narrow zone of the sphere is concerned. The middle, or *datum*-meridian is represented by a perpendicular line. To represent the middle parallel, which should pass through the middle of the map, we must find the length of a tangent to the sphere on the middle meridian; and from the centre describe the arc. From the same centre, we describe the arcs of the other parallels, only varying the distances according to the length of a degree; since degrees of latitude, owing to the flatness of the sphere at the poles, vary at different distances from the equator. To represent the meridians of longitude we measure on the parallels, distances which may be obtained from a table of the lengths of degrees of longitude in different latitudes, and trace the meridional arcs through the points so obtained. In this system of development there is but little distortion. What there is will be principally towards the edges of the map. On the globe, the meridians and parallels intersect at right angles. In the projection, the spaces may be regarded as the same as those on the globe; the lines do not cut at right angles, and the space is not a rectangle; but the angles differ but little from the right angle; and the spaces have nearly the same extent in proportion one to another as they have on the surface of the earth. In finding the parallels above and below the central, or *datum* parallel, trigonometrical tables may be employed. An adaptation of the conical method was invented by Delisle for a map of Russia. Here the side of the cone instead of being taken as a tangent, cuts off a small portion of the sphere, or intersects it in two places, each being exactly in the middle between the central and one of the extreme parallels. The errors are thus more distributed.

In Mercator's projection, the surface of the earth is supposed to be represented on that of a hollow cylinder circumscribing the sphere. If the surface of the globe divided into gores by the meridians, be supposed perfectly elastic, and each gore lifted up at the two ends and applied to the inner surface of the cylinder, and thus stretched at every point except the equator, and varyingly with the distance from the equator, we shall have taken one step towards a map on Mercator's system. Evidently thus far, the form of the different parts on the surface of the sphere must be changed. There is one way of preventing the change of form. This is by lengthening the distances between the parallels as they recede from the equator. Such a representation laid open, as if the cylinder were slit up along one of the meridians, constitutes a Mercator's chart. The chart is useless for the study of geography; but it is of great service to the navigator. The shortest distance between two points on the earth, is the arc of a great circle which joins them. But except on a meridian, or on the equator, it is impossible to sail along such an arc without constantly changing the direction of the vessel. The only great circle that makes always the same angle

with the meridians, is the equator; and to keep on any other great circle, the direction of the vessel would require to be constantly changed, or set to cross the meridians (which tend always north and south) at different angles. This is too difficult for most navigators. Some *one direction* is required, cutting the meridians always at the same angle. Such a line is called a rhumb line, or loxodromy; and it is only necessary to rule a straight line, to lay it down, on Mercator's chart. There is indeed some difference between sailing by the loxodromy and sailing on the arc of a great circle; and tables have been published to assist the latter method; but after all, the simpler method of navigation is generally preferred.

In map-drawing, there are different methods of representing relief with accuracy which is not attempted in ordinary maps. In contour-line maps, the differences of elevation are shown by lines, each of which joins parts that have the same level, the coast line being generally, if not always and of course, the lowest; and the lines being farthest apart where the country slopes gradually, and close where the slopes are steep. In shaded maps, lines are drawn from one contour curve to the other, all of the same thickness, and, says the work before us, "invariably separated from each other by one-fourth of the distance of the contours between which they are drawn;" so that the shade is darkest where the ground is steep, and faint where there is but a gentle slope. This method has been adopted in the Government maps of France and the United States. In the Saxon method, which is very generally used in Germany, there are no contour lines; the slopes are expressed by shading lines alone, whilst a level is left without shading. The direction of the lines is always that of the greatest slope. Ground with a slope of 45 degrees is all shade, or black, and for every difference of 5 degrees down to the perfect level, a change is made by the introduction of white. This portion of the work before us, or relating to maps, is one of those portions to which greater development might have been given. The English maps which accurately depict the features of countries and districts are few, very expensive, and not remarkable for accuracy. We should be glad to know of a sufficient account of the methods of representation used in foreign countries, as shown in maps which were in the Exhibition of last year.

As a book to be read in connexion with attendance on lectures, and with the working of problems on the globes, this Compendium which we have used as a text, must be considered as having great value; and as we have shown, it contains matter which is of importance to students of our particular profession.

LIVERPOOL EXCHANGE BUILDINGS COMPETITION.*

"LABOR et Honor" (26)—This design, to which one of the second prizes has been awarded, has a central tower and flanking towers surmounted with truncated domes. It is beyond the ken of man to conceive why this arrangement has been hit upon so often, for it cannot be considered either to possess great beauty in itself, any peculiar suitability to the site, or the slightest claim to utility. Given a form beautiful in itself, and ten to one nineteen out of twenty competitors would treat it in such a manner as to completely conceal that from which it derives its peculiar effect. We consider the arrangement of broken roofs, prominent towers, and consequent tall chimneys, from the verticality of the lines, the composition most fitted to destroy the repose, simple unity, and continuity of the quadrangular form. To judge of this we need but examine the present buildings, which, though really possessing no one beauty of detail or other merit than that of continuity, congruity, and simplicity, do not fail to please most minds. Many of the competitors seem to have forgotten that the Townhall will form one side of the quadrangle, and that the proposed buildings will be in a measure a continuation of Brown's Buildings and the Liverpool and London Chambers, and, consequently, in general outline should harmonize with them. It may be objected that this would tend to monotony, but it need not necessarily be so, for in able hands the details might be made to completely relieve it from that fault. The great merit of "Labor omnia vincit," apart from good drawing, is that it preserves the continuity of the present buildings, and would thoroughly harmonise with them without in the least copying their details or peculiar features.

In justice to the author of "Labor et Honor" we must say that where he fails it is in common with most of the competitors. The drawings are characterised by great mechanical neatness and finish. In the exterior there is, in conjunction with much *correctness*, a want of imagination and warmth, the treatment apparently being to take a window of one pattern and repeat it with little variation all round the building in that story. The plans are beautifully neat in execution. A circular tower occupies the north-west angle. The underwriters' room is situate in South Chapel-street. The corridors are central, lighted by well-holes. A side entrance to the Telegraph Office and Stock Exchange, as provided in many of the plans, would be a convenience not perhaps thought of by the author. The central passage is divided into two archways. The news-room takes the form of a Greek cross, and is surmounted by a central dome supported upon a flat ceiling and *beams* 60 *feet span*. Such an arrangement is both unstructural and inelegant, and we hope the merchants may be preserved from any such deformity. The plan generally is simple and good, excepting in the arrangement of the west wing, which seems hardly to have had the consideration devoted to it which its important character demands.

"Putavi et Computavi" (39).—By way of contrast we may be allowed next to allude to the designs bearing this motto. The whole bear the marks of hurried execution, and the author would have done himself more justice by leaving out the unfinished and roughly-executed exterior perspective. The news-room is in plan of the Greek cross type, but more developed than any of the others. Whether this would prove an advantage or not in point of utility we are not prepared to say; but the interior perspective shows a lofty and noble room, surmounted externally with a dome for ventilation. Though rather heavy-looking, we think this is due more to the *loaded* execution of the perspective than to its general form, but a little more elegant ornamentation would improve it. An absence of ornament and sculpture pervades the exterior, which might have been made much more attractive and effective by their introduction. The lower story is rusticated, and the first and second floors are united under one arcade spanning two window spaces. These arcades might have been treated in a more varied manner, but the author is aware of the value of a continuous horizontal line, as shown in a cornice of massive dimensions carried completely round the building.

"Res non Verba" (13).—This set of drawings is hung in a better place than it is entitled to, while "Au Bon Droit" (with a cross), a most elaborately got up and in many respects excellent design, is placed in the last room, with more than half the drawings face down on the table. The elevation of No. 13 has a poverty-stricken appearance, and the news-room is awkward in shape, while the general offices are arranged in separate blocks, and a number of small courts are studded over the plan. The author states that he has taken Brown's-buildings and the Liverpool and London Chambers as a guide; but, in our opinion, he has fallen very far short of either of those structures, whether we consider the plan or the exterior. The elevation is divided by a pilastered order on the first floor, which is lighted by small circular-headed windows; while the second story contains windows with the common type of pedimented heads, looking in places sadly too widely spaced apart. The central passage is shown two stories high,—an objectionable arrangement. The author recommends himself to favourable notice from the fact of having had very great experience in the arrangement and lighting (?) of offices; and states he is at present engaged in erecting a large block of them in Liverpool,—a piece of information which might with better taste have been left out; and we would recommend all architects who have the reputation of their profession at heart to abstain from such disclosures, which are unfair if intended to influence the committee, and if their design do not support their claim by exhibiting very high merit, is calculated to get them laughed at.

"Au Bon Droit" (with a cross), (38).—The author of this elaborate set of drawings has evidently undertaken them in a thorough and commendable spirit. The central tower with domed roof, surrounded with sculpture, after the manner of the Tuileries, forms the most prominent object in the external elevation. Perhaps a little less sculpture than is shown would have the effect of strengthening the outline, which has rather a ragged effect. Flanking towers have been avoided with good taste, while the elevation of the west wing to Rumford-street is decidedly handsome and effective, especially from the manner in which the portico, surmounting the entrances to the news-room is treated. A square and large tower, with Mansard roof, occupies the north-west angle,—a well-selected feature, judiciously placed. We do not object to Mansard roofs, if used with caution; but the injudicious sprinkling of them all over a design is to be condemned. In the present instance, it is unquestionable that it would be a fine ornament seen in perspective from Chapel-street, and, together with the dome, would relieve the monotony of that narrow street. The news-room is tranceptal, with apsidal ends, and would, if it be faithfully represented in the interior view, possess grand proportions and tasteful decoration. The perpectives of the exterior, of which there are several, do not, to our mind, exhibit the design to as great an advantage as the geometrical elevations, the weakest point about the whole composition being again the window dressings. The details have been studied from every point of view, nor has apparently the consideration of any one point been neglected by the author, who deserves all praise for the thoroughness of his studies. A corridor surrounds the news-room on the first-floor, and the plan generally is a good one. The side elevations to Rumford-street, Exchange-street East, and flags, are, to our thinking, the cleverest in point of varied treatment.

"A Townsman" (32), "who hopes that the plans so presented may not be considered the less worthy because they *are* the work of a 'townsman.'"—The news-room, a parallelogram, occupies the whole south end of the west wing, and is lighted by windows from the surrounding streets. A side entrance from Chapel-street is provided, in which the present differs from most of the designs. The underwriters' room faces Rumford-street, but the author has forgotten the door. Two courts occupy the west wing to the north of the news-room, an arrangement objectionable from the offices between having to depend solely on borrowed light. The water-closets and lavatories are all situated in the top story, for which the tenants, we are inclined to think, would not be thankful. The composition, as in all of the French designs, again presents the inevitable flanking towers and central Mansard roofs; but, in this case, so broken as to carry the impress of a French château. The manner in which the perspective is etched in brown does not suit the style adopted being more adapted to the portrayal of a Gothic cottage. The interior perspective is by the same hand, showing a coved ceiling, supported by columns with foliated capitals and bracketed beams. The character of the detail and decoration of the walls, beams, and ceiling, though the Corinthian order is employed, approaches the Elizabethan manner more than that of any style we are acquainted with. To describe the exterior is unnecessary, as it cannot be distinguished by words from the other designs of the same class.

"Bursa" (5).—An elegant and originally designed central tower, and an Italian façade treated in a Gothic manner, possessing both breadth and solidity, combine to render this a pleasing, though not a grandiose design. The archway to central passage is cleverly treated, and avoids that dwarfed appearance so peculiarly destructive of architectural effect. The author can hardly have seen the site, or he would not have shown the dwarf palisading across the flags. The interior of the news-room would have a fine effect, being lighted with windows above a columnar arcade. An avoidance of pretentious effect, and a certain originality of detail convey to our mind a more pleasurable feeling than would a dozen Louis Quatorze picturesque groups of building. Architects forget while applying that and other French styles, the fact of the buildings erected about his reign being on an immense scale, occupying a vast area of ground, and consequently requiring a treatment more as groups than as connected blocks. The pediment under the low truncated roof of wings is an original and not an unsuccessful way of varying the horizontal monotony of a perfectly level crowning member, to see which in all its native ugliness we must refer to the design marked "Experiment." The corridors are central, a court occupies the east wing, and the arrangement of the plan appears generally convenient. The principal defect of the façade is the want of elevation above the attic window.

"Au Bon Droit" (with an anchor) (25).—To this design the first prize of 1,000*l.* has been awarded. It contains a news-room, a parallelogram on plan, whose side, with six recesses, faces flags, and contains in all 1,450 square yards. The entrance, in common with a good many others, is only about 12 feet wide, quite inadequate either in appearance or proportion to the room it leads to. Three open courts give light in the

* See pp. 381, 399, *ante*.

same wing, two being brought down to light the offices and corridors on the ground-floor, the other terminating at the ceiling of the underwriters' room, which, in conjunction with side windows, it is intended to light. In the east wing two similar courts are shown, distinguishing this plan from the majority, which usually show a more concentrated arrangement of lighting area. The Telegraph-office faces Exchange-street East, and the stockbrokers' offices face the flags, the arrangement in this respect being peculiar, while the facilities and advantage afforded by a through passage in this wing are very evident. The author has evidently considered the undertaking in a commercial point of view, which he states in his particulars, and has succeeded in producing a very sensible plan. The underwriters' room is in the south-west angle, with a secretary's room adjoining. Columns divide the passage into Oldhall-street. The room for sales by auction is in the basement of the north-west angle, a good position for it from the levels of the ground falling that way. Some of the interior offices are likely to be dark. The oblique passage into Chapel-street is rather an eyesore. The interior of the news-room strikes us as being low; but the gallery above the retiring-rooms would prove a convenience, and from the arcade treatment internally would be far from unpleasing. Three domes light this room, the ceiling being coved and groined. On the exterior its position is not sufficiently marked, so important a room demanding a more distinctive treatment. There is a want of substance about the back elevation. The principal façade shows an arcaded basement, an order above with wide intercolumniation spaced for two windows, an entablature broken around each three-quarter column, in several instances supporting nothing but an inverted bracket, and the cornicione crowned with large dormers to light the attic.

"Three Circles" (30), presents rather a Belgian appearance, the central tower, lantern, and campanile, being well designed, original, and peculiar. The little domed roofs in the angle are, however, not worthy of admiration, and the exterior is, if anything, too formal. The street communications are well devised, the plan bearing the marks of careful study. The news-room is of the Greek cross type, with staircases for the offices in the angles. The corridors are widened out in places, and are lighted with well-holes. The dome of the reading-room is lighted with side windows, the proportions of the interior elegant, with sufficient length of pendentives to destroy the abrupt change from the square to the circle. It is one of the best proportioned and most elegant of its class.

"Suo Marte" (31).—A meagre design exteriorly, and possessing on plan the peculiarity of a circular underwriters' room, fitted into the shoulders of a transeptal news-room, with apsidal end, the interior of which does not recommend itself from the possession of any peculiar excellence or elegance. The window-dressings are of most common-place description, between panelled and widely-spaced pilasters. Some of the competitors really must have some spite against the good people of Liverpool from the desire they seem to evince to have a hand in ruining a good building.

"Colonnade" (40), as its title implies, has a colonnade along the principal façade in connexion with two entrances from Chapel-street and Tithebarn-street, not however returned in the wings: a sort of compromise between the present arcade and the offices required by the committee. The news-room is a parallelogram of good proportions, with underwriters' room in south-west angle. The drawings display a refined taste, but are two slightly executed to attract public attention in a competition; the author, though a tasteful draughtsman, having evidently not had time to do himself more justice. The elevations are perhaps wanting in marked character; but tasteful conceptions, which require close inspection, pervade the detail. The style may perhaps most fitly be described as French, treated in an Italian manner.

"Delta" (44), has awkwardly-shaped underwriters' room, and the oblique passage into Chapel-street still more objectionable, from the "kink" in it. A very tall campanile forms the central feature. The order employed is two stories high, with circular-headed windows or arcade between.

"Once More" (41).—A motto possessing a very deep meaning, for truly architects are seduced into competition, though previously unfortunate, by the treacherous determination to try "once more," and if still unfortunate to throw up competition for ever; but the ambitious soul requires many reverses before giving up. This is one of the few designs not carried the full height around the block. The main buildings are very high, containing five stories, while the north-west angle of wing is kept down considerably lower, behind which rises the news-room crowned with a pyramidal roof. The plan is arranged in distinct blocks of offices, for which "hoists" would be very necessary. The treatment of the façade is peculiar, having a flat pilaster carried up four stories; but broken by the floor lines and strings, and planted on it a smaller pilaster two stories high. The general appearance is flat, and we cannot congratulate the author on the design of the central circular campanile.

"Experiment" (42).—One that we hope may never be made again. The style adopted is described as "Greek," for which an action for libel might be sustained against the author with every prospect of success. The interior of the news-room, though very low, is, to a certain extent, a redeeming point. The "experiment," we presume, is the arcade, two columns in breadth, planted on the flags, and carried completely round the quadrangle; why returned on the south side, at present open, is not apparent.

"Agenda" (43).—The offices are arranged in distinct blocks. The mistake of supposing the Chapel-street and Tithebarn-street front the principal one, the author is alone in having committed.

"Lux" (36).—No less than fifteen distinct roofs and towers appear in the front elevation in the foreground, middle distance, and background. To describe this design would only be to repeat what we have said of twenty others, so we must remain content with remarking that the central piers supporting the dome of the news-room are very objectionable, from the space they occupy.

"Fiat Lux" (37).—An elaborate set of drawings, designed with one idea in view. The broken entablature of the east wing occupied with glass being a feature which would prove ruinous to the architectural character of any design. The Rumford-street elevation is recessed in the centre over the news-room entrance. The design possesses merit, but not originality.

"Harold" (34).—A combination of a monastery, cathedral, and college. Full of gables, breaks, and traceried windows, utterly unsuited to the purpose for which it has been designed. The news-room, externally and internally, appears like a collegiate chapel. The author complains that his assistant was taken ill three weeks previous to the time allowed for sending in the designs.

"Iota" (33).—A plainer version of "Harold."

"Speravi" (27).—Exterior of one order, three stories high, and old-fashioned Classic treatment.

"Spes et Patientia" (28) contains an irregular news-room, lighted by side windows. The angles, again, are *accentuated*, with Mansard roofs. The lower story has an arcade, evidently suggested by Brown's-buildings, but contains nothing demanding special attention.

"Utile Dulci" (29), would make an excellent block of Manchester warehouses, but is unfitted to the present occasion. Perhaps the most severely and depressingly monotonous of all the designs, the horizontal lines being quite overpowering.

"N.B." (24), contains a news-room, a parallelogram, lying east and west, not sufficiently high, and it is not quite evident from the drawings hung how it is proposed to light it. The elevation consists of lower story, order, and attic, bare in design. The elevation to Tithebarn-street is the best.

"Dandolo" (35).—The news-room is a mere screen of glass, which, however excellent it may be for a market or crystal palace, is unfitted to the present object. The plan is on the central corridor system. The building is crowned with truncated roofs.

In concluding our notice of the designs, we may say, while being animated by a desire to do strict justice to the competitors, who have generally devoted so much valuable time and labour to perfecting their designs, we cannot help acknowledging to a certain degree of disappointment at the result of the competition. We had hoped that so great an opportunity would have brought forward something possessing higher qualities than the premiated designs; the first of which, while being in every way a well-studied and practical plan, perhaps one of the most completely developed of the forty-four, we cannot place in the very first rank, even as a plan; nor do we consider that the greatest accommodation can be attained by the arrangement adopted; while, as an architectural composition, it is manifestly inferior to several of the designs we have mentioned. The plan certainly possesses the merit of combining some of the good points of several; but so many small open courts are, we think, objectionable; and the disposition of the news-room, by which the *main* entrance is in the centre of the flank, will not be conducive to grandeur, nor is it the best place to enter such a room. A vestibule of more spacious dimensions is a *sine qua non;* nor in any is this better managed than in "Labor Omnia vincit," which only requires more study to make it among—if not—the best of the plans. To see the necessity of greater accommodation for ingress and egress than is provided for in "Au Bon Droit" (with an anchor), we have only to point to the present, which, providing equal accommodation for a room not half the size, is still insufficient.

Respecting the cost of the several plans, we think that this point has been magnified into a bugbear. With an equal area of ground covered, an equal surface of walling, as there must necessarily be where the height and number of the stories have been fixed, barring the towers, there could not be such a difference in the cost but what might be surmounted by judicious modification.

Our notice has already extended beyond our limits; so with this we must conclude.

ON BUILDING MATERIALS AND THEIR ADAPTATION.

IN Mr. A. Allom's paper on this subject, read at the Architectural Association, as mentioned in our last, he observed that the diffuse nature of the subject rendered a satisfactory arrangement of a paper bearing upon it one of considerable difficulty. It seemed to him, from an examination of the remains of ancient buildings, that the practice of the arts of construction in early times must have been better understood than was generally supposed. The earliest records of works of construction were contained in the Holy Scriptures; and it was evident that the people who could construct such temples as those in Syria and Asia Minor must have had considerable knowledge of the art of building. Were it otherwise, such traces of the manners and customs of the ancients would not have remained to us. History showed that even in the earliest times, the builder was not restricted in the variety or quality of his materials, as there was Scripture authority for the fact that the country was full of goodly cities, and the houses full of all good things. The tomb of Rachel, which was 3,590 years old, might still be seen; and it was evident that the masons had not used cement in its construction. This absence of cement no doubt accounted for the utter extinction of form and shape in the remains of ancient buildings to be found in Palestine. The *débris* of those buildings might still be seen in the shape of immense stones, weighing many tons, which were scattered about in all directions, and utilized by the semi-barbarians who now inhabited the districts in which they were found. The walls of Jerusalem were built without cement: the joints were fairly worked; and a portion of the structure was what is now termed "rusticated." The stones were fitted close to each other, and clamped with lead or iron, as in the present day. The enormous magnitude of the works of the ancients showed the progress of civilization; but it also proved the existence of bondsmen, or of forced labour for the benefit of the great and wealthy. The remnants of monolithic erections in various parts of the East were, he thought, an evidence of a barbarous state of society, as they were neither the result of science nor art, but rather the attempts of human pride to construct enduring monuments of their own power; with what result, their shattered ruins and confused history mournfully testified. Referring to a period within the memory of living men, the reader commented upon the wonderful progress of mechanical art during the last half-century. Steam, as a motive power, had revolutionized the arts of construction; had increased the supply of building materials; had facilitated the mechanical process of labour; had cheapened all manufactured articles, and had extended advantages which formerly were attainable only by the rich to the poor: it had, in fact, transformed the pigmy into a giant. Referring next to foundations, and the importance of exercising the utmost care in respect to them, Mr. Allom referred to the concrete bridges in France, and also the bridge at Maidenhead. At the Kingston waterworks, he stated, the river-wall had failed in consequence of the alternate action of the rise and fall of the water. Cast-iron caissons and hollow cisterns filled with concrete, which might be termed monolithic columns, had now taken the place of heavy pieces of masonry. The new Hungerford Railway Bridge was a fine specimen of the

new system of bridge-building; but he suggested, with all due deference to the engineers, that the cylindrical columns might be much improved in appearance by having coloured or gilded lines introduced above the water-line. The use of similar columns, placed at equal distances, might be brought into requisition for the embankment of the Thames; and by that means the many places of business requiring water-carriage might be retained. Having called attention to new inventions with regard to foundations and the modes of avoiding damp, the reader next alluded to the present system of bringing stone to London in the block, and afterwards breaking it up and dressing it. Stone-bricks might, he thought, be made out of the *débris* of those stones, and at a price not exceeding that of ordinary bricks. Brickmaking was formerly more of a trade than an art, but great improvements had been made in it of late years, and bricks might now be obtained of any colour from pale straw to black. The use and abuse of coloured bricks was in itself a suggestive subject; and it seemed to him that the modern attempt to introduce a Victorian style in bricks showed neither a true knowledge of the use of the material nor a taste for art. Its application too often resulted in mere surface patterns, which, from their hideous form and inharmonious colouring, produced the most unpleasant effects. The introduction of iron as a staple of building material had to a great extent superseded the heavier portions of carpenter's work. Iron girders were now in general use instead of balks of timber; and, as far as bridge-building was concerned, there was no doubt that iron would in future take the place of all other materials. Having given some instances of the continued and successful application of stucco in private and public buildings, a medium which he said was daily gaining in favour, he called attention to a new material for temporary roofs, invented by Rigg & Co., which was composed of canvas covered with a water-proofing substance without vegetable oil as a basis; and, consequently, not liable to the desiccating action of the sun; so injurious to other descriptions of temporary coverings.

In conclusion, he stated that the practical and theoretical branches of the subject were so intimately connected that one was almost useless without the other. A student who merely devoted himself to the theoretical study of his profession would be entirely at the mercy of the builder and mechanic for the realization of his conceptions; and although he might have succeeded hitherto in deceiving his employers as to his practical acquirements; yet the time was coming when, thanks to the public examinations of architects lately inaugurated by the Institute, such a practitioner would soon be found out and cast into the shade.

But as regarded the practice and development of architecture as a fine art, he looked with dismay at the superior chances enjoyed by those who had solely devoted themselves to the study of the practical part of their profession: such a candidate for examination would, he feared, pass muster when the man of real artistic genius would go to the wall. The mere acquirement of the A B C of practical knowledge did not require an unusual amount of mental acumen, whilst the principles and practice of true art were studies that require a superior intellect, were a greater task, and would last a man his lifetime, and such as very, very few, if any, completely master. Unfortunately, the centralizing tendency of modern society was apt to unduly magnify the importance of a name; and thus we saw a few of our leading architects with such a constant accession of new works that it was physically impossible that they could individually devote that study and personal superintendence to their realization that the development of art required, or the interests of the public demanded. But fortunately for the younger men the demand for architecture on the part of the public was increasing so rapidly that it afforded occupation to many whose names had scarcely appeared at the surface, but who, no doubt, would eventually become well known and respected in their profession. He had always thought that to the Architectural Association was due a great share of the creditable advancement that had been made in the profession during the last fifteen years. It had been a school of art when there was no other, and how it had succeeded its rising members and talented students testified. It now only remained for them so to combine the practical with the theoretical that men of education and taste would honour them for their artistic abilities at the time that they felt implicit confidence in their knowledge of building materials and their application.

UNCOVERING THE MEMORIAL OF THE EXHIBITION OF 1851.

ON Tuesday, the Queen visited the Horticultural Society's Gardens, to inspect the Memorial of the 1851 Exhibition, a view of which we gave in our last, and was received by officers of the Society, the Memorial Executive Committee, and the sculptor, Mr. Durham. Her Majesty expressed, in unmistakable terms, her admiration of the monument.

On Wednesday, it was formally uncovered in the presence of the Prince and Princess of Wales, and the other members of the Royal Family; all the great officers of state, the foreign ambassadors, presidents of scientific and artistic societies, and fifteen or sixteen thousand other persons being present. The daily papers have fully described the proceedings. We supplement our notice of last week, with the address of the Memorial Executive Committee, which was read by a member of that body:—

May it please your Royal Highness,—In the year 1853 a meeting, convened by the Lord Mayor of London, Thomas Challis, Esq., M.P., and presided over by him, was held in the Mansion House, to consider the propriety of erecting some Memorial of the Great Exhibition of 1851, in connexion with a tribute of admiration to its great Founder, the Prince Consort, your Royal Highness's illustrious and lamented father. The propriety of the step was at once recognized; and it was resolved unanimously, as well by the country at large as by the meeting, that the Exhibition "was an event of the greatest importance to the nations of the world, by enabling them to observe the relative influence of science, art, and national characteristics upon production, by furnishing the means of a valuable review of the past, and by marking a new starting-point for the future progress of productive industry and giving it an increased stimulus." The meeting saw, too, with the wise author of the undertaking, that its tendency had been to promote useful intercourse between all peoples, and to induce in them feelings of goodwill towards each other. Money was accordingly subscribed for the erection of a Memorial, and active steps were taken to obtain a place for the intended Monument on the site of the Exhibition in Hyde Park. Artists of all countries were invited to submit drawings and models in competition; and ultimately, out of nearly fifty, the design sent in by Mr. Joseph Durham was selected.

The endeavours to procure a site in the park having failed, we, the Executive Committee, who had met with difficulties that might not have been anticipated, sought the aid of the Prince Consort. This was at once freely accorded on the condition, characteristic of His Royal Highness's noble self-denial, that the Memorial should be in no way personal, but one to which he could himself subscribe. The Royal Horticultural Society granted the fine site before which we now stand, on land belonging to the Royal Commissioners for the Great Exhibition, and therefore appropriate, the Commissioners themselves concurring in the grant; and from that time till the very last, His Royal Highness continued to give consideration and personal assistance of inestimable value in completing and carrying out the project. Guided by his cultivated judgment, and aided by an increase of the funds, the design was enlarged and improved to its present form; and the last public act of the Prince in London was the approval of the statue of Her Most Gracious Majesty the Queen, then intended to surmount the Memorial.

A letter from your Royal Highness, after the painful event that had plunged the nation into grief, conveying the will of the Queen that instead of her Majesty's statue that of her beloved husband should crown the Memorial, and offering on your Royal Highness's own part to present the statue proposed to be thus placed—a letter which touched the heart of the country—enabled us to carry out the original desire of the subscribers, which was, emphatically, to offer a public and lasting tribute in connexion with the Great Exhibition of 1851 to the good Prince—"to whose far-seeing and comprehensive philanthropy" (as now recorded on the face of the Memorial) "its first conception was due, and to whose clear judgment and untiring exertions in directing its execution the world is indebted for its unprecedented success."

We take the liberty of expressing our great satisfaction with the admirable manner in which Mr. Durham has executed the commission confided to him. He has produced a work that we believe to be honourable alike to himself and to the country; and we trust this feeling will be generally shared in, especially by those eminent persons who assisted in the Great Exhibition, and whose names he has consequently recorded on enduring granite.

In concluding this brief account of our proceedings, we tender most grateful thanks to the Queen for the interest her Majesty has been pleased to show in the progress of this work, and the all-important assistance thus rendered us in our self-imposed labour. And we pray heartily and devoutly that Almighty God may, in His goodness, long preserve her Majesty's life—a life most precious to her loyal and loving people.

It only remains for us to acknowledge most respectfully the anxious readiness with which you, Sir, accompanied by the illustrious Princess whom all the kingdom welcomes with open heart, and by your Royal Brothers and Sisters, have graciously taken part in the proceedings of to-day. We offer in the name of the subscribers our earnest thanks, and we solicit that your Royal Highness will now be pleased to command the uncovering of the Memorial."

The Prince read clearly this reply:—

"I have listened with an interest which I am sure will be shared by all present to the details which you have given in connexion with the Memorial to my lamented and revered father, and which we are assembled this day to inaugurate.

As a son, I cannot but be deeply affected by that part of your address in which you have referred to the beloved parent whose aid and counsel were never wanting where work was to be done, or where difficulties were to be overcome. I am confident that our proceedings in commemorating so proud a year in England's annals would have met with his approval; and I am sustained in the part which, in obedience to the Queen's commands, I have undertaken, by a conviction and grateful sense that the sympathy of the entire nation accompanies me.

I have now the pleasure of directing that this Memorial, of which the artist may well be proud, be uncovered."

The whole of the proceedings passed off satisfactorily. The effect of the crowded gardens, as seen from the balcony in which the addresses were read, was charming.

We desire to add to the particulars given in our last, that in the architectural portion of the Memorial Professor Smirke, R.A., co-operated with the sculptor, to the great advantage of the monument.

GUILDHALL ON THE 8TH OF JUNE.

IN the regretted absence of Mr. Bunning, the City architect, through ill-health, the corporation placed the decoration of the Guildhall and surrounding apartments, to fit them for the ball given in honour of the Prince and Princess of Wales, in the well-tried hands of Mr. Crace, who set himself to bring out by means of colour and gilding the main architectural features of the structure, and succeeded in producing a very effective and striking interior. We offer him our congratulations on the result.

The panels of the tracery which form the ornamentation of the walls are filled with decorative work, introducing the arms of the Lord Mayors of the City of London from the time of Fitz Alwyn, in the year 1190, upwards. The columns are brought into prominence by diapered work in gold and colour; and from them spring temporary arched principals of canvas and plaster; which, however, does not prevent the roof from being the least satisfactory portion of the whole. Round the top cornice are ranged banners of the various livery companies, the Royal arms, and arms of various cities in the kingdom, so as to carry up the colouring of the walls below towards the roof. At the eastern end of the hall is a raised daïs, upon which is a cloth of estate, bearing the arms of the Prince and Princess, with their united initials, and the badge of England, Scotland, and Ireland. On the tracery of the walls at this end are placed the arms of the sovereigns of England, as well as the arms of foreign sovereigns who have partaken of the hospitality of the city of London. At the western end of the hall is erected the orchestra; the front formed with looking-glasses, with drapery, and with suits of armour, and plants ranged in front of the glasses.

We may state, with regard to the principals, that these were manufactured by Messrs. Jackson, of Rathbone-place, from the designs of Mr. Crace, and executed in a fortnight. The reception-hall, which fills the space of Guildhall-yard, consists of two floors; that above being laid as a supper-room; the whole having been erected from the designs of Mr. Allen, the principal assistant in the City architect's office. The decorations of this room included the series of tapestries belonging to Mr. Attenbury, mentioned by us some time since.

The gold casket to contain the freedom of the City, presented to the Prince on the occasion, was manufactured by Mr. J. W. Benson, and seemed to be, from the distance at which we saw it, a work of great merit. It is decorated with blue enamel, and the ornaments are of Cinque-cento character. The outline and general effect are good.

THE DUBLIN EXHIBITION PALACE AND WINTER GARDEN.

THE foundation-stone of the Dublin Exhibition Palace, of which we published a view and plan some short time since, was to be laid by the Lord Lieutenant of Ireland on the 12th instant; and although the contracts for the works are not yet finally decided upon, the excavations for the foundations are being proceeded with vigorously.

The tender of Messrs. Beardwood & Son, of Dublin, in conjunction with Messrs. Rankin, of Liverpool, has been accepted.

The architect, it will be remembered, is Mr. Alfred Jones.

The company's surveyor, Mr. H. S. Snell, gives us the following statistics, which will enable our readers to judge of the extent of the works:—

The total weight of iron used will be upwards of 1,100 tons; consisting of 950 tons of cast iron, 150 tons of wrought iron, and about 20 tons of bolts, washers, screws, and other small parts. The total number of pieces in the above ironwork is nearly 46,000; viz., 9,700 castings, 9,200 pieces of wrought iron, 22,000 bolts, and 5,000 screws. The glass in the sides and roofs would cover an area of 2¼ acres, and the flooring area is 3½ acres.

The accepted tender for the concert-halls, complete, is stated to be a fraction over 2d. per foot cube.

BUILDERS' BENEVOLENT INSTITUTION.

A GENERAL MEETING of the subscribers to the above charitable institution was held at the London Tavern on the 28th ult., for the purpose of electing three pensioners. Mr. Henry Lee, president, occupied the chair.

Among the gentlemen present were Mr. G. Plucknett, treasurer; Messrs. Joseph Bird, W. Hutcheons, R. Watts, sen., W. Phillips, Richard and Geo. Head, R. Richardson, W. Nicholson, T. Cozens, J. Thorn, T. Stirling, J. Williams, W. Harrap, W. C. Anderson, G. Burge, G. Dines, G. Spencer Smith, &c. On the election of the three candidates on this occasion, there is a total number of forty-five pensioners on the funds.

At the close of the poll Mr. Thorn, one of the scrutineers, read over the list, when it was found the following were the successful candidates:—

Thomas Hammond, aged 81; William Taylor, of Southampton, aged 76; Mary Ann Chirnside, of Cleveland-street, Fitzroy-square, aged 68, widow of Henry Chirnside, late pensioner on the funds of the Institution.

The Chairman, in announcing the return of the successful candidates, said he regretted that, out of a list of ten, who were all equally deserving, their funds only permitted them to elect three; and that nothing would have given him greater pleasure than for all to have been returned. He, however, would inform those who had that day met with disappointment, that there would be another election in November next, when some of the number would be returned. He concluded by urging the recommendation of the charitable principles of the Institution on their friends and wealthy members of the trade.

Mr. Plucknett moved a vote of thanks to the chairman for his presence and conduct in the chair. He said that, during that gentleman's presidency, through his personal interest, the funds had exceeded those of any previous year.

Mr. J. Bird having seconded the proposition, it was unanimously carried.

Complimentary votes were then passed to the scrutineers, Messrs. Thorn, Cozens, Stirling, and other officers.

JAPANESE ORNAMENT.*

IN this, our third article upon Japanese ornament, we purpose considering speaking or symbolic forms, and accounting for those peculiarities of the style which result from known causes.

Ornamental styles have arisen which have had no further object than that of pleasing. Others have concerned themselves especially with appealing to the faith or wants of the persons addressed by it. There are symbolic styles of ornament, and styles which are wholly æsthetic in character.

Greek ornament, for instance, was made up of forms created and arranged only with the hope of their beauty delighting those who beheld them. Mediæval ornament consisted largely of forms of a speaking character. The trefoil was not merely employed in this latter style on account of its graceful contour, but as an emblem of the Holy Trinity. Cruciform ornaments were not made because they were peculiarly pleasing, but as symbols of the cross of Christ and of the crucifixion. Even flowers were used as ornaments, because holy persons fancied they set forth Christian actions. Thus Mediæval art, being symbolic, addressed the understanding, and Greek ornament, being æsthetic, addressed the taste. Japanese ornament is in part symbolic, and in part of an æsthetic character. Certain forms are intended merely to please by their beauty, while others are to become cherished on account of their significance. The sacred bean (*Nelumbium speciosum*), is a symbolic element of Japanese and Chinese ornament; but what it signifies we have not fully discovered.

Some light is thrown upon it by a series of objects shown by Remi Schmit & Co., in the late International Exhibition. These were seven in number, and appeared at first sight to have no purpose,—they appeared as so many mere ornaments. This, however, was not the case. Their number would of itself indicate that they had a use, and this their structure tends to confirm. The chief member of each was the sacred bean. This flower was wrought in relief, and was enamelled in the manner of the Claissonné vases. In treatment it was simple and natural, yet the most perfect form of the lily was chosen for the flower, and all deformities were carefully disregarded. The lily was about 3 inches in diameter, and the entire object about 10 inches in height. The flower rested on a brass stalk about 5 inches in length. This rose from a basal mass, on which were wrought waves indicating the water from which the flower naturally springs. At each side of the stalk of the flower, and resting on the base, are ornamental members; but these do not appear important in the composition. Throughout the parts already described these objects were all very similar, but each differed. On the centre of the lily flower rested, in one case, the anthemion ornament, of which we spoke in our first paper, in one of its richest varieties; on another rested a curious fret; on another a canopy fringed by curtains; and in no two was this terminal ornament alike.

A cup formed of a portion of a human skull, massively set in gold (the skull was said to be that of Confucius), was, perhaps, the object of chief attraction in the Chinese Court of the late Exhibition. Upon the gold margin of this cup the same ornaments occur that rise from the lilies of which we have been speaking. The cup has been said to be sacred. The presence of these forms upon it would tend to confirm this opinion, as the lily ornaments are associated with religious rights. There are seven lilies, one for each day of the week. Each seems to speak of a religious duty to be performed. It is much like telling of the sun's day, the moon's day, Tuisco's or Mars's day, and of the claims of each day of the week. These objects are associated with religion. It is in religion that symbolism always has its rise.

The sacred bean is much used in the ornamental compositions of the Japanese and Chinese; but it is a speaking form. Wherever it occurs it speaks. It is to the Japanese and Chinese as fully a speaking form as the trefoil ever was to us, even though St. Patrick taught the doctrine of the Trinity by it.

In Japanese ornament there are many symbolic forms, and many compositions which express the faith of the people. We constantly find the dragon in Japanese and Chinese ornament, either grasping a ball in a paw, or seizing at or disgorging a sphere. Such compositions present to us an eclipse or a lightning storm, as understood by the nations who produce them. Lightning issues from a thunder-bolt when crushed by the fierce grasp of a dragon. An eclipse takes place when a dragon swallows the sun; and the luminary again shines when disgorged. This is the faith of the Chinese and Japanese. Every dragon which we see squeezing the thunderbolt, or in contest with the sun, is an expression of the faith of its producers. While speaking of subjects expressed in forms of a more or less ornamental character, we may notice what such expression involves.

In order to the representation of the thunderstorm there must be a dragon, and a ball, and lightning flashes; and with these clouds are usually associated. The ball would easily be rendered, and the production of lightning flashes would involve the expenditure of no great skill. Clouds, however, are difficult to treat, and art-power of the highest order may find scope for its exercise in the production of a spirited dragon. Lightning is generally represented by both the Chinese and Japanese, as irregularly-waved elongated bifurcated members, with attenuated points. Clouds are variously treated, and much skill is manifested by some of their conventional forms. They are usually bounded by curves terminating at their ends in small volutes, and are of irregular forms (fig. 1). In Japan they frequently occur in the Mediæval cusped shape also (fig. 2); indeed, the coincidence between the clouds of the two ages is so complete, that it would be in some cases impossible to discover, from the form merely, in which they originated. Fig. 3 shows the moon borne upon clouds.

Clouds are skilfully treated and beautifully rendered in Japanese art. In the production of a dragon there is much room for the exercise of fancy. A fabulous creature may have any form. Usually the dragon is represented as a kind of reptile, a species of lizard or alligator. None but a believer in dragons could draw these ideal beasts with the power and energy with which we often see them portrayed in the works of China and Japan. The fierceness of the monster, who in his wrath squeezeth forth the lightning, must be felt to be set forth with power. As given by either nation it is always full of life. And usually there is as much ferocity or even agony given in the form as there is life. No nation ever has had the power of producing monsters so full of energy and life as the dragons of Japan and China. The delineation of these subjects demands a conventional treatment of clouds, lightning, and the dragon, in the production of which the art of which we write is peculiarly successful. There are many speaking forms employed in Japanese ornament, but there is great difficulty in discovering precisely what they express. Contradictory statements are made respecting their utterance: hence we content ourselves with the illustrations of symbolism which we have already given. Japanese art is in part symbolic and in part æsthetic.

The student of Japanese art cannot fail to observe small ornamental devices on many objects. Small circular compositions, squares formed into groups, and solitary rosettes, occur on many of the best lacquered articles. And these frequently appear as independent ornaments amidst the branches of a plant, or dispersed between the parts of loose and continuous scrollwork. Considered in an ornamental point of view, these often give to the ornament a fragmentary character. Their nature, however, explains their object. They are crests.

Japanese crests are usually more simple than our own. They often consist of a familiar object, as a fan, but more frequently of some ornamental device. One before us, as we write, consists of four wedge-shaped leaves, with three-lobed points radiating from a centre (fig. 4); another of a circle, in which is contained a flower formed of three bilobate petals (fig. 5); another of four small squares with boundary lines broader than the space they enclose—the four squares being arranged into one larger square; another is a fan, the web of which is a mere broad band of the form of an arc: no corrugations or plats are indicated on it; another consists of a trefoil leaf with serrated margins, similar to that of the common strawberry-plant, and three small heads of flowers. The three points of the leaf are directed downwards, and the heads of flower rise from behind. The flower heads are not those of the strawberry plant. Another is a dragon coiled, as though in great agony, into a circle. Another is shown in fig. 6. These are crests which we have met with on many articles—on wall-papers, boxes, mirror-stands, metallic mirrors, writing-cases, and other objects to which art is applied. Many of the small and disconnected objects on Japanese articles are crests, and the purpose of those which are not may yet be understood.

Circular compositions have great favour with the Japanese. We observed an earthen bowl in the late Exhibition decorated entirely with circular arrangements of flowers. A friend copied about fifteen of these groups, and these were not all. No two were alike. On many saucers, cups, and other articles of Chinaware there were two or three of these circular arrangements. A tray was decorated with three such ornaments, one of which is given in fig. 7. About half the Japanese wall-paper which we have seen have circular patterns upon them (fig. 8). Circular compositions are more common with the Japanese than groups of any other form. This seems to be accounted for by most crests being circular. A loyal subject may possibly use upon his walls the crest of the prince whom he serves; but of this we cannot speak with certainty. The poor in all countries seem to imitate what the more wealthy do. Crinoline is no sooner worn by the rich than the poor also procure it, or a cheap substitute for it. If ladies of the first rank wear dresses decorated with stripes, women of the lower ranks will wear stripes also. It has been rightly said, that whether monkeys are degraded men or not, this is certain—that men are inveterate apes. The lower always ape the higher.

This tendency of the human mind to imitate would account for the prevalence of circular ornaments in Japan. If the upper classes of society have their articles studded over with circular crests, the lower grades will either copy the forms used by the higher, or produce similar ornaments. They will cover their articles with circular flower groups, or arrangements of animals, or conventional forms. Circular ornaments they will have for the upper classes have them. As the upper classes place these crests upon articles of common domestic use, and upon their walls, we find the circular ornaments of the lower classes upon all kinds of objects.

This seems to us a probable explanation of the frequent occurrence of these circular ornaments, but it may not be correct. It is only surmise on our part, and may consequently be very far from truth. The Japanese may have a strong partiality for groups of this character, and these groups may have no further object than that of gratifying the taste. The crests, however, are generally circular.

What we have said is sufficient to guide us in forming a tolerably correct idea of the nature of Japanese ornament, and a reasonable opinion of works in the Japanese style. By a correct knowledge of art, we can say whether works

* See pp. 308, 364, *ante*.

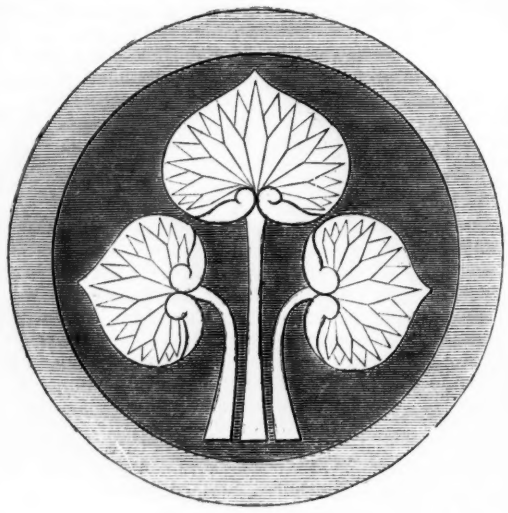


FIG. 6.

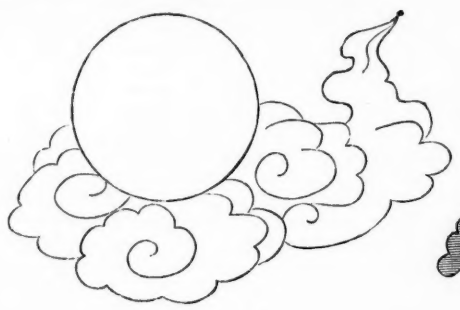


FIG. 3.

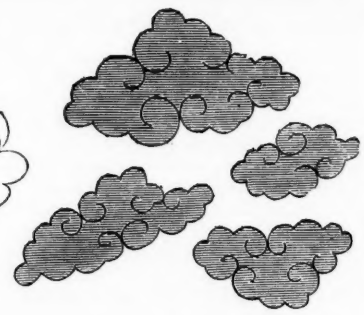


FIG. 1.

FIG. 2.

FIG. 7.

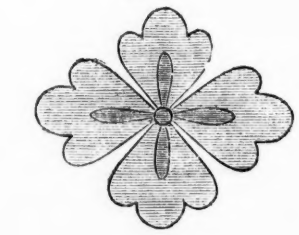
FIG. 8.

JAPANESE ORNAMENTATION.

in the style offered to our notice are true, or whether they falsely represent the style they set forth. The use of ornament which belongs to another age is never desirable; and the use of ornament belonging to a people of foreign faith should never be adopted. That mode of expression by words which had currency even in the court five hundred years back, would now be considered low and inelegant by people of the middle classes of society. We have advanced during the last five hundred years, in our language at least. We should have correspondingly progressed in our arts, but we have not. Yet the art of the Middle Ages is not appropriate to us. It might be modified, it may be, to answer our present purpose, as the language has been. So might the ornament of other nations; but as they stand, no style of ornament which has expressed the faith, or satisfied the requirements, of people with a different faith and dissimilar wants to our own, is appropriate to us.

Rather than copy ornamental forms, we should extract the good from all styles, and appropriate it to our purposes. We should borrow principles rather than forms. The sacred bean does not address our understanding: it is no more to us than any other flower: hence for us to use Japanese ornament, as it stands, would not be desirable. But if we use it we should employ its noblest qualities, and select from it those forms which are of an æsthetic rather than a symbolic character. We certainly should, in all cases, avoid the mean features of a style, and employ those only which are exalted. These considerations of Japanese ornament will aid us in selecting the true art qualities from the Japanese,

FIG. 4.



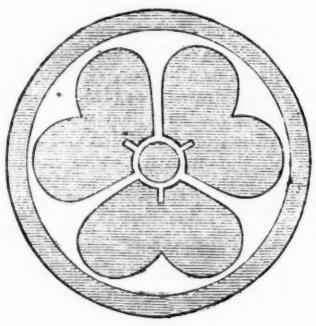


FIG. 5.

if we must follow the fashions of the French, and produce designs in the style of a worthy character. While we cannot approve of copying the ornaments of any style, we yet think that more real art is to be found in Japan than in many countries whose ornament we largely use; hence, if we cannot produce original decorations, and must copy others, we may, with advantage, study and appropriate Japanese ornaments.

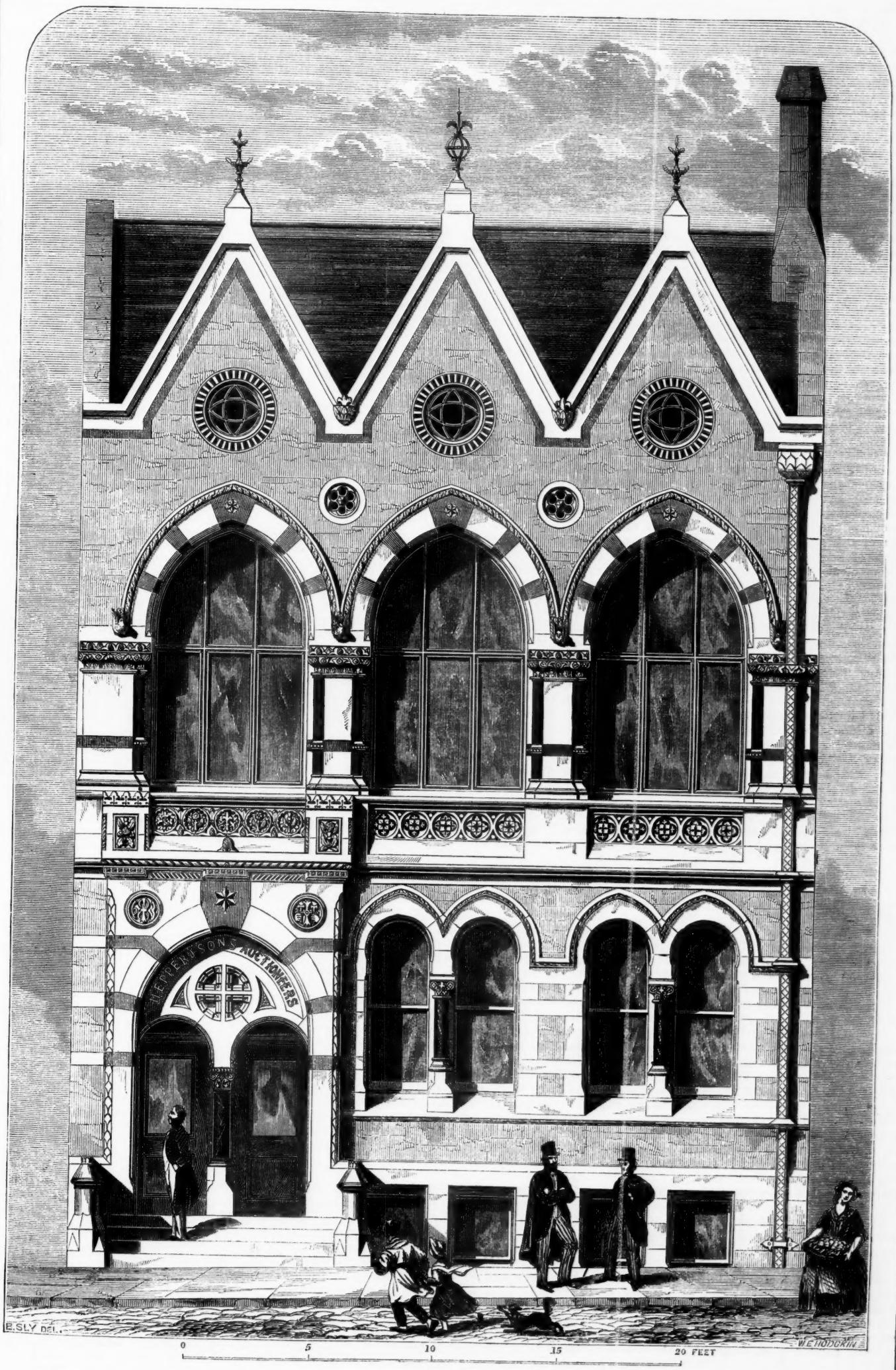
STREET ARCHITECTURE, LEEDS.

AUCTION ROOMS, EAST PARADE.

THE building of which we give a view is in the course of erection for Messrs. Hepper & Sons, close to the Town Hall and near the railway station, under the direction of Mr. George Corson, architect. The basement comprises dining-room and porters' room, under the offices; furniture store-room, under the auction-room; and covered yard, with access from Park Cross-street. There are no rooms over the yard or the auction-room; over the offices there is one large room for estate sales.

The front is entirely of stone, from Harehills quarries; the wall-stones are boasted; the dressings rubbed, with bands of red sandstone to arches and under the gables. The shafts to the porch and ground-floor windows are of polished red granite; those to the windows of the estate-room and stairs are of serpentine.

The porch, which is semi-circular on plan, will remain open during the day, and be closed at night by shutters folding and sliding into recesses on each side.



ARCHITECTURE OF THE PROVINCES: AUCTION ROOMS, LEEDS.—MR. GEORGE CORSON, ARCHITECT.

ON THE ART COLLECTIONS AT SOUTH KENSINGTON, CONSIDERED IN REFERENCE TO ARCHITECTURE.*

I FEEL that I am yet only on the threshold of my subject. I had intended to have taken a chronological method as the most convenient; that is, going from century to century, to pass rapidly in review the different classes and modes of art to which each age and country gave rise, at least as they are illustrated by actual monuments in the Museum; but it is obvious we have only time for a few disconnected examples. Now the Museum is very rich in Byzantine or Romanesque art, in my opinion a most original and interesting phase,—one, moreover to be studied rather in decorative utensils and objects of a portable nature, than in great buildings, which, in the lapse of so many centuries, have nearly all perished or lost their original character. The first great awakening of art in Europe took place in Germany, under the successors of Charlemagne; and the second Otho, by his family connexion with the Byzantine court, introduced all manner of skilled craftsmen from the East, whose varied and ingenious technical processes took root and speedily bore more excellent fruit than in the East itself. Western Europe was then preparing to take that great stride onwards, which speedily led it to dominate over the East alike in arts and arms. The great old city of Cologne was, as I believe, thenceforth, perhaps for at least two centuries, the prime centre of art in Europe: thence proceeded those noble works in metal, such as the seven-branched candelabra, the so-called trees of Milan, Brunswick, Essen in Westphalia, Hildersheim, Prague, and I fear I must class our own Gloucester candlestick as a work of this school, though I would fain believe it to be of English origin. I know, for instance, nothing of any age superior either in design or technical execution to that stupenduous work, the "Albero" of Milan Cathedral, a production unquestionably of German art. Now, here under my hand are several objects of great interest of this period.

The beautiful Champlevé enamels we have already alluded to are of prior origin, and of much higher merit than the better known and more abundant ones of Limoges. Our Museum affords numerous examples of both. Then, again, what a mine of varied instruction is presented by the numerous monuments in carved ivory—the croziers, book-cover plaques, diptychs, the mosaics, nielli, and book illuminations of this fertile period. In all these branches the Museum affords characteristic specimens.

At this early time, moreover, textile art had arrived at singular perfection, and I cannot but allude to an important collection of specimens in this class, which the Museum has recently acquired,—I mean the extraordinary gathering of ancient fabrics, and articles of costume formed by that distinguished archæologist, Dr. Franz Bock, canon of Aix-la-Chapelle. I am happy to announce that the Museum has acquired upwards of one hundred specimens from that collection; and I trust the remainder of the series, making in all about 450 pieces, will ultimately be secured. I have hung around some few examples, but by no means the most important, for the bulk of the specimens are not yet ready for exhibition.

Now, this collection alone is a treasure of flat ornamentation of the most admirable and diversified kind. From the sixth or seventh century downwards, there is a complete series of the most exquisitely beautiful textile fabrics ever produced,—chiefly the splendid tissues of Byzantium, the costliest products of the looms of Cologne, of Bruges, Venice, and Palermo. This collection in its entirety is, and will, doubtless, ever remain unique and unapproached in importance. Not a few of the specimens, for instance, have been the shrouds and rich pontificals of ancient ecclesiastics rescued from the tomb; others the envelopes of relics; many, indeed, relics themselves, having been the known vestments of sainted ecclesiastics, preserved from generation to generation in their own churches and monasteries.

Now our English Mediævalists are beginning to take note of textile art as within their province. Here, then, is a boon to them; but I need scarcely say that, for all art in which colour and geometrical or flat ornament is concerned, for wall-diapers, painted glass, &c., the truly beautiful stuffs of the Middle Ages, dwarfing into insignificance as they certainly do, all our modern products, are an indispensable source of study.

We now come to that great era of art which I may, perhaps, for want of a better title, still be allowed to call the Gothic system or style. I do not employ the term "*Christian Art*" simply on account of its too great comprehensiveness; though it is here, in a certain sense, very properly applied, inasmuch as we have now a new and perfectly original art-system, in which Pagan antiquity had absolutely no share, and to which it was radically and essentially antagonistic. I shall not occupy your time with æsthetical or historical speculations as to the origin of this Gothic architecture. It was the spontaneous and genuine expression of a peculiar state of society in Western Europe. Chivalry, the feudal system, and the ardent unquestioning faith, stimulated by romantic mysticism, of the Roman Catholic Church, produced, in fact, in the thirteenth and fourteenth centuries, an art so wonderfully complete and original, so rich and varied, and yet so inflexible in its leading principles and forms, that it seems impossible either to take from or add to it. It seems to me, indeed, that the greatest tribute we can pay to this system is to avow that we must be content with a humble and loving imitation of it, or its entire abandonment.

The Museum is very rich in works of this great phase of art. We may commonly class works of the Mediæval Gothic period under two heads, namely,—Ecclesiastical, and Secular or Domestic. Generally speaking, from obvious causes, objects in the latter class are the more rare. There are, nevertheless, to be found many most interesting and suggestive works of Domestic origin. I may specify the numerous and diversified series of coffrets or caskets in every possible decorative material, iron, brass, wood, ivory, leather, &c., carved, painted, embossed, chiselled: every variety of manipulation with the hammer and file, the graving-tool, or the gouge, may be here seen; each instrument fashioning its appropriate material into forms of beauty; differing as widely as possible in their decorative expression or styles one from another; modified again by the different modes of view of the respective nations of Mediæval Europe. Here we may note French Gothic, differing with an infinity of shades of variation from the neighbouring Flemish and German contemporary versions;—England, again, displaying its own beautiful peculiarities; and Italy and Spain, southern lands where the Gothic never fairly struck root, nevertheless offering us occasionally motives of admirable originality and beauty. Then let us take into consideration the goldsmiths' or metal-workers' craft. Here are splendid altar-crosses, reliquaries, monstrances, chalices, &c., in rich array; drinking-cups, salt-cellars, mazer-bowls; and in the more robust art of the blacksmith,—what an admirable series of locks, handles, hinges, knockers, coffers, &c., does this collection offer for the direct practical study of the architect and designer for industrial art! How completely in this phase of art, for instance, may we study the natural and consistent, and, therefore, most artistic treatment of wrought as opposed to cast metal? How completely may we note that the hammer and the file have, as it were, a language of their own, whilst, at the same time, we never see this language misapplied?

In wood and ivory carving the Museum also possesses fine works of Gothic art; and here, again, their use to the architect and the art-workman is often direct; but I must dwell no longer on this style. We will pass to the next great phase—the Renaissance—the Quattro-cento and Cinque-cento of the Italians, and, as I suppose, I ought to say, the Elizabethan of our own country; though this last designation, applying, as it does, only to one particular period, by no means adequately responds to the foreign terms which, from the poverty of our English art nomenclature, we are obliged to make use of. We are now coming nearer to our own times; and naturally we have a greater abundance and variety of art-monuments than of the earlier epochs. The diversity of styles, generic, national, or local and individual, not less than the vast variety of modes and processes, now renders it hopeless even to attempt any general review of the specimens in this extensive category; and, as our time is so limited, I shall select for notice one or two classes of works only, which seem to bear upon matters of special interest at the present moment.

My own predilections are strongly in favour of Italian art of that truly wonderful epoch the fifteenth century; and I agree with, as I think, the majority of writers and connoisseurs, that the so-styled Fine Arts—Painting, Sculpture, and Architecture,—at the close of the fifteenth and beginning of the sixteenth century, attained *in Italy*, to a crisis or pitch of perfection, beyond which, speaking in a general manner, it was impossible to carry them, and at which level they could not be permanently maintained. Our eloquent President, if I recollect rightly, in his opening address, somewhat discountenanced the idea of crisis or culminating points in art; nevertheless, I am almost tempted to adopt the notion, that there is some occult law of development for society, or the world at large, analogous to that of the growth and decay of individuals: that the world of art, at all events, does in reality pass through repeating cycles, as it were, of youthful progress, manly perfection, and the decrepitude of age; and that, for instance, ancient art attained to its culminating point in the age of Phidias and Praxiteles, and then for many centuries gradually declined; the sacred flame of art at last waning to the feeblest glimmer in the dark night of universal barbarism, so having reached the lowest point; then again there was a slow but certain revival, till at last it grew again to a second sun-like blaze, in the full light of which stand out the giant forms of Donatello, Brunelleschi, Michelangelo, Raffaelle, &c. Have we passed the lowest point of decline since this? or are we again, with fluctuating intervals of apparent revival, slowly moving in a downward path? I would fain believe that we are again marching onwards in a fresh career, and that the next great dwelling-place of art will be in this our own England. But, I am digressing when there is no time to lose. It is now not a little difficult to choose amongst the mass of treasures in this division of our collection.

The Italian sculptures, I need scarcely say, offer examples of exceeding value to architects. Some of them, such as the marble singing-gallery of Santa Maria Novella, are, indeed, in themselves, complete architectural monuments, practically illustrating numerous points in the application of decorative sculpture on set architectural forms. Moreover, a careful consideration of other specimens, which at first sight might appear to have no direct bearing upon architecture, will, I think, well repay the student: most instructive facts and suggestions may, indeed, often be gleaned from figures or *relievi* viewed as detached specimens, even when there is no certain record of the monuments they originally adorned;—for instance, in the works of that truly great artist, Donatello: and here I am happy to say, that no other museum, not even that of Florence itself, can boast such a series of original works of Donatello and his scholars as this. What wonderful power there is here displayed of dealing with the principles of *relievo!* Sometimes, for instance, we may see apparently the most harsh and abrupt forms in high relief, disagreeable and even repulsive in themselves, assuming the most beautiful and consistent aspects when placed in their proper light, or considered with reference to the part they were destined to subserve in a general architectural composition; and, on the other hand, modes of *relievo* so refined and delicate, so very low or flat, as to be almost as it were like painting on marble; and in this manner we may see the most crowded and elaborate subjects most distinctly and strikingly rendered, and yet with a repose and tranquillity of aspect of itself most beautiful. And this, perhaps, when the work was intended to adorn some plain wall space, enlivening it with richly-storied sculpture, without interfering with its obvious stability and breadth of effect. Here occurs to me a striking and most original instance of this mode of treatment; and I cannot forbear to specify it, both because it is almost unknown and also from its remarkable suggestiveness. I instance that most noble and original Italian Renaissance church. San Francisco at Rimini, where the entire surface of the marble interior walls of one side of the nave, with its chapels, are covered with sculptures, apparently carved in the mass of the walls after their erection, and not laid on or encrusted,—quite, in fact, on the principle of the ancient Egyptian and Assyrian wall-sculptures. Nothing in Italian art ever struck me as more beautiful or more generally remarkable than the grand figures of saints and angels, of almost colossal proportions, filling the vast wall-spaces of this church; and I could not fail to note the skilful manner in which the degree or style of relief was varied in every part, to suit the light which illumined its particular position.

These noble sculptures are believed to be mainly the work of Luca della Robbia; and here the mention of this great artist brings me to the consideration of an art which is believed to have owed its origin to him; which has a particular interest for us at the present time, now that efforts are being made to revive it; and of which the Museum possesses a complete and unrivalled series of specimens;—I mean the works in glazed or enamelled terra cotta, generally known as

* By Mr. C. J. Robinson, F.S.A. See p. 401, *ante*.

Della Robbia Ware. But first let me apologise for having dwelt at such disproportionate length on the matters already passed in review.

I find I must give up the idea of taking into consideration many special branches of art, in many respects as important as those we have touched upon: the objects in the various categories of mosaics, marqueterie or intarsiatura work, wood-carving, in innumerable applications, especially as here illustrated in the fine series of Italian carved furniture; the cassoni, chairs, cabinets, &c.; then again the works in metal, of iron and monumental bronze, illustrations of the various processes of *repoussé* work, chiselling, damascene work, niello, &c., painted glass and enamels; processes and productions, in short, without number. I can but allude to them in order to dismiss them from our consideration; and in doing so I am conscious that my lecture to-night has been but an irregular and spasmodic attempt to grasp a subject too vast to be treated within such limits. In conclusion, then, I will ask your permission to dwell for a very brief space on the subject of Italian ceramic wares; and in particular on those enamelled terra cottas, as one which has for many years specially engaged my attention. Our collection of Majolica and Della Robbia wares is undoubtedly the most important in existence. I do not separate the two classes of productions, because they are in fact only different manifestations of the same art. We have, indeed, a most important and unique series of works painted on the flat, in the manner of Majolica plates, by Luca della Robbia himself: I allude to the twelve large circular medallions from the Campana collection, representing impersonations of the twelve months, and which there is little doubt were portions of the famous ceiling of the writing-cabinet of Cosmo de' Medici, particularly mentioned by Vasari. My travelled hearers will here, doubtless, be reminded of the bacili or circular painted plates let into the walls and campaniles of so many ancient Italian churches. Now, what an admirable suggestion does this adaptation of ceramic art alone offer to us? In what a variety of ways might we decorate not only exterior façades, but also the ceilings and interior walls of our buildings with enamel-painted pottery and terra-cotta *relievi!*

Amongst the Majolica wares, what beautiful types both in design and execution may we not find for decoration of this kind: take note of the splendid lustred plates, which might now be so readily and so cheaply reproduced: what magnificent effects might not the curved surfaces of such brilliant wares, concave or convex as the case might be, be made to produce, gleaming in the rays of the sun, like diamonds, rubies, and emeralds. Why should we not have rich architecture jewelled, as it were, with such novel ornaments? And then, considering the Della Robbia Ware proper, what a field is there here! Why should not details of every kind be executed in this durable material,—doorways, pilasters, friezes, decorative medallions, &c., to any extent? The incrustation of precious marbles, which we see in Italy; the panels of porphyry, serpentine, &c.; might be imitated, or rather superseded by the still more brilliant coloured surfaces of enamelled earthenwares.

Not that the improved technical processes at the command of the modern potter have as yet carried enamelled terra-cotta work further than of old: the technical perfection of the Della Robbia wares, indeed, is not their least remarkable characteristic: let me point to the huge medallion, 11 feet in diameter, so conspicuous an object in the north court of the Museum, displaying the arms and devices of King René, of Anjou, within a noble border of fruit and foliage: this magnificent specimen, doubtless, from the hand of Luca himself, till within the last few years, had remained in its original position on the exterior of a villa, in the neighbourhood of Florence, ever since the period of its execution,—at least four hundred years; and except where it has been wilfully or accidentally damaged, it is literally as perfect as the day it was made; and the climate of Florence is, I believe, quite as inimical to the preservation of such works as that of England: the extremes of heat and cold are, indeed, much greater than in this country. But our modern English Della Robbia wares as yet do not give promise of such absolute durability.

Our practical potters, in fact, should come and study the works of Della Robbia in our Museum, technically and scientifically, just as architects and art-workmen should take them into consideration from the point of view of art.

We should note, for instance, what exquisite and appropriate qualities of glaze, texture of surface, and colour these old wares present; so different from the glaring whiteness and crude glossy enamels of their modern imitators. In the original specimens the white glaze is subdued to a beautiful creamy grey tint, in order that it should not contrast too vividly with the surrounding stonework of the wall in which it was to be inserted: all the other colours, moreover, especially the blue, are broken and subdued in like manner; and for the same reason the enamel glaze is mat rather than too bright, the white having all the full rich texture of marble, which it was designed to imitate. Fine specimens of Della Robbia ware, in short, are models of ceramic excellence, as much superior to their modern imitators in technical respects as they are as works of art.

The true secret of this excellence is that the great Florentine artist knew exactly what he wanted; he knew the precise qualities he wished to produce; whereas our modern imitators, both here and abroad, are floundering about for want of his refined judgment and intelligence in art, and not because they are unable to master technical difficulties.

I must now bring my lecture to a close: from what I have said it will, I hope, be gathered that I also, in the appropriate and suggestive words of your President, am an advocate for "a free and scholarly art,"—for a proper use of the glorious legacy of the past; and I feel that we are on safe ground in commending to all, both lay and professional men, the objects and efforts of a society like the Architectural Museum—inasmuch as the aim and efforts of that institution are alike definite and practical; its action and the spirit which animates its energetic supporters, moreover, eminently healthy; a spirit especially characteristic of this free country, and scarcely possible elsewhere.

In endeavouring to illustrate the bearing which the more extensive and important Art-Collection of the State has on your special object, Architecture,—though I have made no allusion to the admirable collections of the Architectural Museum also housed within these walls,—I have by no means been insensible to the fact, that this collection created, and mainly sustained, as it has been, by individual or private zeal and devotion to the cause of art-education, is by no means the least useful feature of the great assemblage of monuments of art which have already made South Kensington one of the chief art-centres of the world.

METEOROLOGY IN CONNEXION WITH HEALTH.

A CAREFUL record is kept by a department of the Manchester and Salford Sanitary Association with reference to the climate of that great town and the surrounding neighbourhood.

At present, even in Manchester, the means of obtaining reports as to the atmosphere and the effect upon health, are but limited; for there are but few observers who possess standard instruments; it is to be hoped that, as time rolls on, there will be an improvement in this respect. From the observations which have been already made it is shown that, during the winter of the year 1861-2, the large amount of radiation in the suburban districts caused a great diminution of temperature in those districts; and we have, consequently, a lower temperature in the suburbs than in the centre of cities during winter. The great consumption of fuel in large cities like Manchester tends, to some extent, to increase the effect just alluded to.

In the summer half of the year the dense atmosphere of Manchester prevents the solar rays acting with their full force; and, consequently, we have a lower temperature in the centre of Manchester than in the suburbs. The mean weekly and diurnal ranges of temperature are also much less in the city than in the suburbs, owing to the same cause. There are other details to which we need not now particularly refer.

At a time when only three ozonometers were placed at three stations, it was observed that ozone could not be detected in the centre of Manchester. At Old Trafford it occurs, often in large quantities, with the wind from S.E., S.S.W., W., and N.W.; but none with the wind in any other direction. It is also rarely found when the temperature is excessively low, unless it is accompanied by a strong wind from one of the points above named. At Thelwall it appears to exist with the wind from all points of the compass, especially if the air is warm and moist. At Ollerenshaw ozone exists in large quantities when scarcely any can be detected at the other stations. It also occurs in very large quantities with easterly winds.

The following are notes of the effects of the atmosphere on some diseases:—As regards measles, in 1860, and the first part of the year 1861, this complaint in Manchester was not prevalent, and fluctuated considerably, and did not show any increase or diminution with the changes of temperature; but in the autumn of 1861, as soon as the temperature began to fall, measles rapidly increased, and continued to do so until the close of the year: 66 per cent. of its fluctuations rise and fall inversely as the degree of temperature, thus strengthening the opinion expressed by the Meteorological Sub-Committee of the Sanitary Association, that measles are materially affected by changes of temperature, increasing generally with its fall. We believe that the same will be found to be the case in connexion with typhus and other fevers; and we have often expressed an opinion that this is to a considerable extent caused by closing windows and other apertures in the crowded houses of the poor. On the approach of cold weather the matter should be investigated more carefully than has yet been done. We believe that it is wrong to attribute fevers especially to the summer heat.

Whooping cough began to rise suddenly in the week ending January 12th, after the severe cold of Christmas, 1860. From that time it increased steadily in Manchester, pursuing its course apparently unaffected by changes of temperature, until it reached the extreme height of fifty-six new cases in the week ending November 23, 1861.

Bronchitis and catarrh, influenza and pneumonia, are included under one head, and their course shows the influence of low temperature in predisposing to these affections.

The disease sank to its lowest point (100 cases) on July 27th, and was again very low on August 31st, when the temperature began to diminish decidedly after having been high for eleven weeks.

The record of the committee shows that diarrhœa and dysentery are materially affected by the summer heat: influence was produced on those disorders by a temperature of more than 60 degrees. When the temperature first rises above 60 degrees, a great impulse is given to this disease; and it is when the temperature remains long above this point that a great number of cases of diarrhœa may be expected. In the week ending July 6th, the temperature fell below 60 degrees, and the disease seemed to be checked for a time; but in the week ending July 20th, when the temperature again rose above 60 degrees, it spread rapidly and continued very high until September 1st, when the temperature was again lower.

By the co-operation of Dr. R. D. Thompson, of London, the Manchester Meteorology Committee have been enabled to compare some conditions of Marylebone with those of the last-named town.* We find that in 1861 the death rate of Marylebone was 24 per 1,000, as compared with 31 per 1,000 in Manchester. Notwithstanding the difference of the death rate, there is in proportion to the population a larger amount of sickness reported in Marylebone than in Manchester. Is this to be explained by the greater facilities which exist in London of obtaining hospital and other gratuitous relief?

For the first few months,—from September, 1860, to November, 1861, inclusive,—the diseases of the zymotic class, as small-pox, chicken-pox, measles, scarlatina, and whooping-cough, were much more prevalent in St. Marylebone than in Manchester; and chicken-pox and scarlatina remained so during the whole period. Small-pox, although very low throughout this period, began to prevail most in Manchester; and, in the autumn of 1861, the measles and whooping-cough rose considerably over the rate of London.

Diarrhœa was throughout the period more prevalent in London than in Manchester, and rose to 1,900 new cases in August,—nearly four times the number that were noted in Manchester; but bronchitis and catarrh, erysipelas and dysentery, constantly prevailed much more in Manchester than in London.

All these differences in the prevalence of various diseases at the two places,—if they should continue to appear in future years,—would point to most interesting subjects for future inquiry;—for instance, the influence on disease, not only of climate, drainage, &c., but also of occupations and trades, and of the various impurities in the atmosphere of these cities. It is only by the careful collection of facts, and by the comparison of the health and sanitary conditions of various places,

* The record of cases includes those occurring in Manchester; those occurring in Marylebone, in the pauper, charitable, and public institutions; and those in London in ten charitable institutions.

that we shall be able to arrive at the true effect of various agencies upon man. We trust that the day is not far distant when we shall have sanitary societies firmly established in each of the metropolitan districts, and in the towns and even villages throughout the land. The local good which would result from this would be immense; for besides the active operations of those societies, they would have great power in obliging the authorities to perform their duties; and the facilities which might thus be afforded for comparing facts would be most valuable.

FROM ROME.

AT the last meeting of the Archæologic Academy Signor Grifi, an *employé* in the Ministry of Public Works, read an interesting paper on the statue of Augustus found at Prima Porta, in the ruins of Livia's Villa, called "ad gallinus albas" (from the circumstance of a bird having fallen into the empress's lap, with an olive-branch in its beak). He assumed the age of the subject represented, forty-six (to us the head seemed younger), and that the naked feet were one indication of apotheosis, as seen in other likenesses of Augustus deified. Dwelling on the elaborate reliefs of the cuirass, he conjectured that the Aurora in her chariot was allusive to the fact of Augustus's birth at dawn of day; the other figures to his victories, Actium, Sicily, Spain, Dalmatia. This statue's height (strangely reported by a Roman journal at 11 feet) is only 10 palms; and it is announced that the Government decides to purchase it for 8,000, or, according to other reports, only 6,000 scudi. The last discovery among the same ruins is a spacious chamber underground, with walls and roof perfect, adorned by painting, tints still vivid, of arabesque character in design, flowers, fruit, birds, &c., pleasingly treated. At Ostia have been found the ruins of a temple to Sylvanus.

Mr. Gibson has just finished his very graceful statue of a dancing-girl, suggested by a study of Cerito's movements on the stage. Mr. Spence is executing, and has nearly ready, for Mr. John Grant Morris, of Liverpool, a statue of Flora Macdonald, the heroine of the Stuart cause, celebrated in the story of the Pretender in Scotland; here represented in sorrow after the young prince's departure; seated, mournful and pensive in aspect; the face one of classic beauty overshadowed by grief, but calm; the attitude well expressing the mood of mind. This is the fourth nationally Scottish subject the artist has treated—Highland Mary, Jeanie Deans, the Lady of the Lake, preceding—and all eminently successful.

THE JEWRY WALL, LEICESTER.

AT a recent meeting of the Leicestershire Architectural Society, Mr. Henry Goddard communicated the following paper on the wall:—

"Excavations having been made in front of the Jewry-wall to ascertain its depth and the extent of its foundation, I felt desirous of examining, measuring, and making a correct drawing of the structure. I have done so, and have pleasure in exhibiting the drawing for the inspection of the committee of the Leicestershire Architectural and Archæological Society, with an elevation and section of the wall, and the dimensions of the details.

The wall consists of four arches, with a niche between the two central arches. The present level of the passage between the wall and the church has been considerably raised above the level originally existing in the Roman period. Hence, the piers which sustain the arches or barrel roofs sink below the pavement 7 feet 6 inches. At this depth a line of loose concrete is met with, 14 to 18 inches thick, which probably lay immediately beneath the Roman road or pavement.

The excavation and piers continued downwards below the level about 11 feet. This fact showed that the piers and barrel roofs did not project beyond the face of the wall seen in the recesses more than 4 feet 6 inches; the piers having a perpendicular face of Roman tiles and stone of regular masonry down to the lowest foundations.

The projection of the piers being only 4 feet 6 inches, and the latter showing no connexion with any building in an easterly direction—that is, towards the church of St. Nicholas,—I cannot suppose the fabric to have been a temple, as some antiquaries conjecture it to have been: in my opinion it was the western entrance to the ancient city, having two gateways; and I am the more fortified in this opinion by the remembrance that some years ago, in excavating for the foundation of a building in Talbot-lane, I discovered remains of a paved road, of considerable width, in a direct line between the Jewry-wall and the Watt's-causeway, which connected the town anciently with the Roman road call the Foss-way.

Between the two central arches was a niche for a statue. At the northern end of the Jewry Wall was an arched recess, which, being close to one of the gates, may have formed a sentinel's room. In the wall here were two narrow apertures, with circular heads, intended perhaps for the use of the sentinel in looking out and watching the approach of strangers. At the Southern extremity of the Wall is a similar, but wider recess, having a like purpose, namely that of a guard chamber for the use of sentries. Formerly, a cottage stood in this arch, which was taken down some years ago.

Let me now invite the attention of this society to the dilapidated and unsafe state of this very interesting work of antiquity. Some years since some person cut away nearly the whole of the piers below the barrel roof in order to provide a shelter in which to hang ladders, to protect them from the influences of the weather. On examining the top of the Wall, I find that that portion of it which would have given strength, by counterbalancing the overhanging roof, is perished and gone. Consequently, I consider the overhanging arches are in a very dangerous condition; and if brick piers are not immediately built for their support, we shall very soon see but little left of this remarkable specimen of ancient art and ingenious architecture."

It was resolved that means ought to be taken to preserve the remains, and the secretaries were instructed as to the course proposed to be adopted.

Mr. Vincent Wing communicated some observations upon "The present requirements of Gothic Architecture in order to a successful competition with the works of antiquity."

A PERMANENT COMMISSIONER OF PUBLIC WORKS.

ON the motion for going into committee of supply in the Commons, on the 5th inst.,

Mr. B. Cochrane moved, "That for the sake of obtaining greater unity of design in our public buildings, and with a view to the efficiency and economy of the public service, it is desirable a permanent Commissioner of Public Works and Buildings, or other officer, should be appointed to the present Board of Works." The honourable member said he thought the House would generally agree that in all public improvements there should be unity of design, and as much economy as possible consistent with efficiency. Such unity of design they must admit was not to be seen in the public buildings of London; and he should be able to prove that whatever improvements had been made, had been carried out at a great sacrifice of public income, in consequence of the management of the Office of Works. He would ask any honourable gentlemen who had observed the state of public works in Paris, whether they were not struck by the different manner in which they were carried out from that witnessed in this country? This arose from the fact that here there was no unity in the management of public works. But he was very anxious that the House should take nothing on his own assertion; and if hon. members would walk with him in imagination through some parts of the metropolis, he should be able to point out so much absurdity in the mode in which public works had been conducted, that he thought they would afterwards agree to the motion he now proposed. Mr. Cochrane then expatiated on the merits or rather the demerits of Buckingham Palace, the National Gallery, the monuments in Trafalgar-square, &c., and the mismanagement connected with various public works, such as the State Paper Office, the Record Office, and the Law Courts question, &c.

In reply, Mr. Cowper said his hon. friend had led the House a very agreeable tour round the buildings in London, enlivening his description by illustrations of considerable point; but it was remarkable that all the more important of these illustrations entirely demolished the argument which the hon. gentleman was endeavouring to urge upon the House. The instances which he had quoted of vacillation of purpose, change of mind, and useless expenditure of money, all occurred at periods when either there was a permanent commissioner at the head of the Office of Works, or when the Board of Works consisted of one Parliamentary head and two permanent commissioners.

Mr. Cowper then went into particulars in order to prove the truth of what he had asserted; and he concluded by saying:—The hon. gentleman had referred to Paris; but he had failed to see the distinction there was between the two cases. In the first place the prefect in France was a municipal officer, and more resembled the chairman of the Metropolitan Board of Works than the First Commissioner of Works. But the real difference between Paris and London was that the funds in the former case were ample, and more than were required for any improvements that were thought necessary; whereas the means at the disposal both of the municipal authorities and the Government for the improvement of London were much too small to carry out the large and important works that were urgently needed.

The House was also addressed by Sir John Shelley, in support of the motion; by Sir M. Peto, in advocacy of the French system, and against our own; and by Lord John Manners, against the motion, which was by leave withdrawn.

ARCHITECTURAL PUBLICATION SOCIETY.

THE annual general meeting of the subscribers was held in the Gallery, Conduit-street, on the 29th ult.

The chair having been taken by Mr. James Pennethorne,

Mr. Arthur Cates, the hon. secretary, read the report of the committee and the balance-sheets of the accounts of the society. The balance-sheets appended showed,—

"The receipt and expenditure for the several years, and that the total receipts for the thirteenth year, 1860, have been, subscriptions, 346*l.* 10s.; other receipts, 170*l.* 19s. 9d.; together, 517*l.* 9s. 9d.; and the expenses of the year, 456*l.* 10s. 1d.; leaving a balance of 60*l.* 19s. 8d. to be carried forward in favour of the succeeding year, 1861, the accounts for which show a balance of 238*l.* 0s. 11d. available for the completion of the issue for that year (now in hand), and a balance of subscriptions already received for the year 1862 (fifteenth), of 206*l.* 8s. 9d., to meet the cost of the parts now in preparation for issue;—the total balance in hand being 475*l.* 19s. 8d, of which amount 430*l.* is placed on deposit account with the Union Bank of London in the name of the treasurer."

Mr. Pennethorne, in moving the adoption of the report, congratulated the members on the services rendered by all those who devoted so much time and attention to the interests of the society, and the production of the "Dictionary of Architecture;" and he expressed his satisfaction with the careful, although gradual manner in which the work was produced. He insisted that the first object of the society was to produce a complete work, that should become a standard book of reference, and indispensable to both the architect and the man of taste; and therefore he thought that it would be better to be slow than to admit any imperfections. He pointed out the manner in which the discussion at the last annual general meeting had influenced the committee in dealing with the articles in the part recently issued, and the principle of condensation applied to the scientific articles. He alluded in feeling terms to the loss the society had sustained by the withdrawal from the committee of Mr. J. M. Lockyer, whose knowledge and abilities had, from the foundation of the society, been ever employed for the advantage of the members.

Some few explanations having been made in reply to inquiries from members, the motion was unanimously adopted.

A vote of thanks to the committee and treasurer was proposed by Mr. T. W. Plum.

Mr. H. Bowman seconded the motion. The work in hand was one which merited the support of every member of the profession, and the list of subscribers should be far more numerous than it was. He believed that the slow issue of the Dictionary acted prejudicially in this matter, and prevented many from subscribing who would otherwise do so; and he particularly mentioned a very general and hurtful belief that the book would eventually be issued at a lower price.

Mr. J. Papworth alluded to the course pursued by some publishers in re-issuing books at a very great reduction in price, but shortly after the original publication; and he stated what he considered as a guarantee that this would not be the case with this society.

Mr. Cates gladly replied to Mr. Bowman's inquiries; especially as he (Mr. Bowman) must be considered as in some degree representing the numerous and influential subscribers of Manchester and the North. Each member of the committee was as much personally interested in the speedy completion of the Dictionary as any individual subscriber could be; but with them rested the responsibility of producing a satisfactory and complete work; and while admitting that by adopting the ordinary system of compilation, the remainder of the Dictionary might be produced very rapidly; he deprecated, in strong terms, adoption of any such course by which the value of the the work already issued would be much diminished. The difficulty of obtaining accurate information on the simplest matters was remarkable. As to the fear expressed by Mr. Bowman that the price might at some future period be lowered, to the disadvantage of the subscribers, he expressed his conviction that the declaration of the committee that they would never

allow a single copy to be sold for less than the subscription price, would be strictly carried out. The stock was all paid for, and in the custody of the Society, and no debt existed, or was ever likely to be incurred.

Professor Smirke, R.A., regretted to find that any one doubted that the Society intended, so far as they were concerned, to fulfil the pledge they had put forward, of not allowing the books to be sold under the publication price, and thought that not the least apprehension of such a contingency need be feared. He wished it were possible to hasten the work to completion. A large accession of new subscribers would, he thought, materially assist in producing this desirable result.

The resolution having been unanimously adopted, Mr. Smirke moved a vote of thanks to Messrs. Wyatt Papworth and Arthur Cates, the honorary secretaries,—to the former for the labour of arranging and utilising the "*indigesta moles*" of information and suggestions, and of condensing and collecting it, and reducing the whole mass to that concise, symmetrical, and harmonious form in which it appeared; and to his colleague, Mr. Cates, they were much indebted for the manner in which the business was conducted and the accounts arranged. This and other votes of thanks, to the local honorary secretaries, to the contributors of sketches and subjects for illustration, and to Mr. Octavius Hansard for his services in preparing them for publication, proposed by Mr. St. Aubyn and seconded by Mr. Wyatt Papworth, were carried unanimously;—also a vote of thanks to the chairman.

LINCOLN DIOCESAN ARCHITECTURAL SOCIETY.

THE annual meeting of this society has been held at Sleaford. The proceedings opened with divine service in the church; after which the fabric was briefly remarked upon by the Rev. Ed. Trollope, and attention drawn to its chief beauties and points of interest by Mr. Kirk. The members and their friends afterwards assembled in the large room of the Corn Exchange, when the chair was taken by the Marquis of Bristol, and a paper upon "The Family of Carre of Sleaford," was read by Mr. Maurice P. Moore, F.S.A. The next business of the day was a visit to the Castle site, on the outskirts of the town. Here some excavations had been made, which revealed portions of the foundations in a fine state of preservation; and by the aid of a ground-plan Mr. Kirk succeeded in giving his hearers an idea of the former position, extent, and strength of the structure. Returning to the Corn Exchange, we took a brief glance of some of the rubbings of brasses, photographic sketches, and water-coloured drawings on the walls.

The Excursion left the Market-place, at two o'clock, and visited some of the churches of the neighbouring district. The programme of the route was through the villages of Kirby Laythorpe, Asgarby, Ewerby, Howell, and returning through Heckington to Sleaford. A numerous company of ladies and gentlemen made the excursion in between twenty and thirty carriages.

The evening meeting took place in the Corn Exchange, at eight o'clock, when papers were read by the Rev. Canon Marsden, Professor of Archæology in the University of Cambridge, and Sir Gardner Wilkinson; the former entitled "Observations on certain Remains of Roman Art, at Ancaster;" and the latter, "Long and Short Work."

On the following day the party left the Market-place at ten o'clock, and visited the following churches: — St. Botolph's, Quarrington; St. Peter's, Ranceby; St. Martin's, Ancaster; St. Mary's, Wilsford; Kelby; St. Michael's, Haydor; St. Thomas à Becket's, Aunsby; St. Mary and All Saints', Swarby; and St. Dionysius's, Silk Willoughby.

The public dinner, which was attended by ladies as well as gentlemen, took place in the Corn Exchange, at half-past six o'clock; and at eight the evening meeting was held in the same room, when a paper was read by the Rev. E. Trollope, entitled "Shadows of the Past History of Sleaford."

ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.

THE Lord Lieutenant having consented to receive a deputation from the reorganised Institute, the following gentlemen waited upon his Excellency, viz., Messrs. Charles Lanyon, J.P., president; Jacob Owen, V.P.; S. Symes, W. G. Murray, E. H. Carson, J. M'Curdy, and J. J. Lyons. The president explained the objects of the Institute, which are for "the general advancement of civil architecture, the promotion and facilitating of the knowledge of the arts and sciences connected therewith, the formation of a library and museum, the establishment of uniformity and respectability of practice in the architectural professions," &c.; and having read the list of newly-selected officers and council, the president respectfully solicited the honour of his Excellency's acceptance of the office of "patron" of the Royal Institute.

Lord Carlisle replied in brief terms, dwelling upon the improvement that had taken place, of late years, in the architecture of our cities and towns, and concluded by expressing his gratification in accepting the office to which he had been elected.

AMSTERDAM MUSEUM COMPETITION.

THE commission constituted to settle as to the erection of a Museum of Works of Art in Amsterdam appeal to architects of all countries for designs. It is intended as a monument to the memory of the first sovereign of the reigning dynasty. The architectural style and the materials to be used are to be regulated not only by the monumental intention of the building, but by its purpose, which is, the exhibition of works of the Dutch school, especially those of the sixteenth and seventeenth centuries. The cost is not to exceed 500,000 florins of the Low Countries.

The author of the design considered the best is to receive a premium of 1,500 florins; the author of the second, 300 florins.

The designs and particulars are to be sent in by the 1st of February, 1864.*

COMPETITIONS.

Frome.—The Committee appointed to carry out the scheme for new Public Baths, in honour of the marriage of the Prince of Wales, having advertised for designs, those by Mr. C. J. Phipps, architect, have been selected.

Windsor.—The committee appointed to carry out this work have been engaged during the past fortnight in receiving and examining the five sets of plans sent in to compete for the new church. For the better performance of this duty Mr. Christian, architect, was selected as their assessor. The designs most approved were by Mr. A. Blomfield and Mr. Norton. The latter, after negotiation, has been adopted. Eight builders have been selected to send in tenders, viz.—Messrs. Wheeler, Snowball, Hollis, Lawrence, Cleave, Holden, Gray, Fassnidge, and Myers.

PROPOSED STREET FROM THE STRAND TO HIGH HOLBORN.

A CORRESPONDENT, "M.," urges the formation of a direct street from the Strand up Newcastle-street, continuing in the same line through Clare Market to the corner of Portsmouth-street, Lincoln's-inn-fields; thence through the west side of Lincoln's-inn-fields, through Gate-street, and Little Turnstile into High Holborn, nearly facing Day & Martin's. The advantage of this course is this, that two-thirds of the distance is already made; and the cutting through Clare Market diagonally will open up a district, to say the least of it, which requires ventilating. The fact that one side of Little Turnstile is now pulled down, gives force to the proposition. If the houses there be rebuilt, a narrow passage, allowing only two persons to pass at one time, will be perpetuated.

ANTIQUITY OF MAN:

THE ASSERTED DISCOVERY AT LILLE.

AS we supposed, the statement to which we were induced by the high character of the *Siècle*, especially,—wherein we first saw the paragraph which has been going the round of the French press,—to give increased publicity, though with great reservation as to the facts, turns out to have been an invention. We have now before us the original number of the *Echo du Nord*; and not the slightest indication, by heading or otherwise, do we find in that henceforward *trustworthy* authority, more than in journals upon which it succeeded in imposing, that the assertions in the paragraph were less authenticated by the signature of the *rédacteur* of its *Chronique Locale*, than matters of information following the paragraph. Geologically regarded, there was manifest improbability that human remains should be found in the *calcaire grossier* of the Oise, which is of the Eocene formation, of a date long antecedent to the first appearance of all recent species of plants and animals. It seemed just possible, however, that there had been some petrifaction; and that, if so, the question which has lately received so much attention might be affected one way or the other. As the result is, the *Echo du Nord* has not only brought disgrace upon the French press, in relation to serious questions that are being followed up in a manner which is creditable to men of science of the two countries; but it has succeeded in causing much annoyance to those Frenchmen who are most to be honoured for the services they have rendered to the question of the antiquity of the Human Race. The *Abbevillois* has treated English men of science at least, with more respect.

It may have been noticed that one of the latest expressions of opinion, by M. Elie de Beaumont, the best known in England of French geologists, is not at all favourable to the antiquity of the *strata* at Abbeville, in which the jaw-bone was found. There is a letter in a recent number of the *Athenæum*, on the other hand, referring to discoveries at Gibraltar, which seem to bear on the question.

* A copy of the programme may be seen at our publishing office, York-street.

DECORATIVE HOUSE PAINTING.

A CORRESPONDENT, "Thomas Kershaw," after objecting to some of the awards on the works exhibited in Painters' Hall, says,—It is high time something should be done to place this business on a better footing. It is too much in the hands of builders and agents, who know but little of the business, and merely use it as a matter of pounds, shillings, and pence. This accounts for so much bad painting being done. The architects have it in their power to alter this to a great extent, by giving each tradesman his own special work. By this means we should have better workmen, better materials used, and the customers better satisfied.

IMPROVED WORKING-CLASS DWELLINGS FOR LONDONERS.

ON Saturday a meeting of merchants, bankers, and others desirous of co-operating with a view to improve the homes of the working classes of London, was held at the Mansion House, Lord Stanley presiding.

It is proposed to form an association of twenty or thirty gentlemen, protected by the Limited Liability Act, and having a capital of 25,000*l.* to 50,000*l.*, to be invested in the erection of a series of blocks of improved dwellings.

Lord Stanley, in the course of his opening speech, said they were profiting by the experience which others had at their own cost obtained for them: they would be able to avoid errors of detail; and, in the main, he thought they would differ from their predecessors chiefly in this, that they would look rather to the accommodation of families than of single men, and not to the highest amount of rent which the better class of persons among the labouring classes could afford to pay, but to what was necessary to make the undertaking remunerative to themselves as an association. In the first place, it was simply impracticable to attempt to lodge the labouring population of London in a manner otherwise than remunerative to those who did it. What they had to go upon was the experience which Mr. Waterlow had obtained in erecting a block of buildings in a crowded part of Finsbury. Mr. Waterlow said that for a sum of 25,000*l.*, including all preliminary expenses, and also the dividends for one year on the capital during the period of construction, they would be able to put up blocks of buildings for the accommodation of 200 families. The gross estimate was 25,000*l.*; and assuming that each house on a moderate estimate would be let for about 15*l.*, that would give a gross return of 3,000*l.* a year, or 12 per cent. on the gross outlay. From that if they deducted, in respect of ground-rents, cost of supervision, the occasional loss on rooms unoccupied, and other incidental expenses, 50 per cent. on the returns, a net return of 6 per cent. would still be left after the payment of all expenses. He was glad to see that a sum of 14,000*l.* had already been subscribed towards the object in view.

Mr. Waterlow explained his plan more in detail; and several other gentlemen addressed the meeting.

A working or provisional committee was then nominated for carrying out the undertaking, composed of Lord Stanley, as chairman, Alderman Waterlow, Alderman Finnis, Mr. Samuel Morley, Mr. Henry Edwards, Mr. Travers Buxton, and Mr. Ellis. The chairman took shares to the extent of 500*l.*

CHURCH-BUILDING NEWS.

Birmingham. — The new cemetery for the borough, at Witton, of which we have already given details, and also views of the buildings, has now been formally opened.

Castleford.—It is proposed to build and endow a church at Allerton Bywater, to hold about 230 persons; and to form that portion of the parish of Kippax into a separate district, having a resident clergyman. It is hoped 2,000*l.* may be raised by subscriptions for this purpose. Subscriptions to nearly one-half the amount have been already promised.

Newcastle-upon-Tyne.—An endeavour is being made to procure the means of removing the high wall of St. John's Church, and erecting a palisading. The churchwardens have appointed a committee for the purpose.

Carlisle.—The new free church of Scotland, lately erected on the Warwick road, has been opened for divine service. The sole contractors for the building were Messrs. Nelson, of this city; the design having been furnished by Mr. Raeburn, architect, Edinburgh. The total cost of the church will be about 1,650*l.* The design is Gothic, but plain and simple in external appearance. It is built of red freestone: a square tower rises from the west corner of the front elevation to the height of 75 feet. From each corner of the tower rises an ornamental turret crowned with the national emblem of Scotland; and a finish is given to the opposite corner by another turret of similar design. The west side of the building is divided into four bays by buttresses. The other side of the church is left for the present in an unfinished state, the intention being to erect a manse on the vacant space adjoining as soon as the congregation are in a position to do so. The principal entrance is by an arched doorway gained by a flight of steps from Warwick road; and access to the interior is obtained from each side of an entrance hall. The building is surrounded by a palisaded area. The interior is in keeping with the exterior, and is plain, with pews arranged down each side and a row in the centre. A gallery runs round three sides of the church, and in every part space has been economised. Daylight is admitted by a triplet window at each end as well as by side lights. The church is capable of accommodating above 700 people. Beneath is a hall to be used as a Sunday school and for other purposes.

Dumfries.—The Buccleuch-street United Presbyterian Church at Dumfries has been opened. It has been built from designs by Mr. Alexander Crombie, architect, and is of the Early Gothic style of architecture; the doorways, however, being partly of the Second or Decorated style. The front—the north gable—is to Buccleuch-street. In the interior the roof is open, and the galleries extend along both sides and the north end of the building. The main beams of the roof are stained in imitation of oak, and the other woodwork varnished. The contractors were—for mason work, Messrs. J. Crackstone & Son, Maxwelltown; joiner work, Mr. R. M'Courty, Dumfries; painting and glazing, Mr. R. Coltart, Dumfries; plastering, Mr. W. Thompson, Glasgow; slating, Mr. T. Adair, Dumfries. The entire cost will be about 2,000*l.*

Glasgow.—The foundation stone of a United Presbyterian Church has been laid in East Campbell-street. It is to accommodate 1,400 sitters, and the edifice will cost about 5,000*l.* The new building is being erected on the old site. The walls are already considerably advanced,—and the church, it is expected, will be opened about the end of the year.

STAINED GLASS.

Chester Cathedral.—A stained-glass window has been executed for the north side of the apse by Messrs. Heaton, Butler, & Bayne, of London. The principal subjects are Mary at the Feet of our Lord, and the Resurrection of Lazarus. Beneath these are smaller subjects, viz., Jairus's Daughter, the Widow of Nain, Paul raising Eutychus, and Peter raising Dorcas. In the tracery is the general Resurrection. The window was the gift of Mrs. Massey, of Moston Hall, near Chester.

Lincoln Cathedral.—The Revs. A. T. & F. H. Sutton have added another stained-glass window to the nave of Lincoln Cathedral. The subjects are taken from the life of Samuel.

Algarkirk Church (Lincolnshire).—The rector has placed a memorial window at the west end, which will form a contrast to the chancel window at the east end. The stone work of the window consists of six lights, with flowing Decorated tracery. The lower lights are some 15 feet in height. The glass comprises a series of eighteen subjects arranged in three tiers, the whole being canopied after the manner of ancient glass—coeval with the style of the stonework. The tracery is filled with floriated designs comprising sacred emblems, angels, &c. The subjects of the upper and lower tiers refer to our Lord's Death and Resurrection, arranged triplet-wise: thus, on the upper range, on the left, three divisions are devoted to the subject of our Lord's Entombment: on the right the spaces are in like manner devoted to the Resurrection. At the lower part of the window are two triplets similar in disposition to those just described. In the one case are shown the Maries, St. Peter, and St. John journeying to the sepulchre, upon which is shown seated the Guardian Angel: in the other, our Lord is shown appearing after his Resurrection to the Maries. The middle tier of subjects represent six mercy works of our Lord in "Raising from the Dead," and "Healing the Sick:" these subjects, instead of being arranged in triplets, as in the other cases, are complete, one in each light. The rector intends also filling the north and south transept windows. The artists of the west window were Messrs. Clayton & Bell.

Peterborough Cathedral.—Mrs. Edmunds, widow of the late Rev. Payne Edmunds, LL.B., the late rector of Theddlethorpe and Mablethorpe, Lincolnshire, has signified her intention of placing a memorial window in this cathedral. The window selected contains two perpendicular lights, the subject of one being the Magi worshipping and offering Presents to the Infant Jesus, and the other a representation of Christ blessing Little Children. The artist is Mr. A. Gibbs, of London.

All Saints', Norwood.—The east window of All Saints' Church, Norwood, has been filled with stained glass by Messrs. Heaton, Butler, & Bayne, of London. The subjects are the Crucifixion, Resurrection, and Ascension. The figures between the subjects are the four Evangelists. In the tracery is the subject of the Angels appearing to the Shepherds. The window was a gift of a parishioner.

SCHOOL-BUILDING NEWS.

Ipswich.—The new National Schools for Trinity district parish, which have been erected at an expense of about 1,400*l.*, raised by subscription, are completed. The site is the gift of Mr. J. C. Cobbold, M.P., and is a field at the back of Albion-street, and not far from the gasworks, in the centre of a very poor and populous district.

Dodworth, near Barnsley.—By the liberality of Mr. T. W. Vernon Wentworth, a Church of England School is about to be erected for the benefit of the inhabitants of the Gilroyd district; and the foundation-stone has just been laid. Mr. Amos Taylor is the architect, and Mr. W. Ingham the contractor for the mason-work.

Jarrow.—The schools erected at Jarrow as a memorial of the late Mr. Cuthbert Ellison have been formally opened by the Bishop of Durham. The schools are plain in external appearance. They have cost upwards of 1,200*l.*, the greater part of which has been defrayed by Sir Walter and Lady James.

PROVINCIAL NEWS.

Oswestry (Salop).—A Public Hall Company has been formed here, and Messrs. Bidlake & Spaull, architects, have been instructed to prepare working drawings and obtain tenders for a public hall. The directors expect to have the foundation stone laid in July. The hall is to be in the Italian style, with a tower over the entrance; and the large hall is to be 82 feet long and 36 feet wide, capable of accommodating 750 people. The reading-room will be 25 feet by 28 feet; and the building will also contain a library, coffee and smoking rooms, class-rooms, kitchen, hall-keeper's bedroom, retiring-rooms, &c.

Langport (Somerset).—The Local Government Act has been adopted here by the owners of property and ratepayers of the borough and parish. There were twelve for and twelve against it, and the chairman gave his casting vote in favour of the Act.

Falmouth.—The excavations for the Falmouth Hotel have been commenced. The hotel will contain about forty bed-rooms, coffee-rooms, sitting and smoking rooms, and on every floor there will be bath-rooms. A short tunnel is to be carried from the grounds to the beach, for the purpose of sea-bathing; and convenient stabling and offices will be erected contiguous to the building. There will be an approach road from the railway station to the house, and the grounds will be laid out with shrubberies. Shares have been taken up to the amount of more than 16,000*l.*, the whole capital being 20,000*l.*

Holyhead.—A new stone pier, nearly 500 yards long, extending through the large area under Tan-y-ran from the railway station to the old pier, has been commenced here. The London and North-Western Railway have contracted with Messrs. J. & C. Rigby, of Royal Victoria Harbour, Holyhead; and we understand that the whole works will cost at least 250,000*l.*

WORK DONE BY A "MONKEY."

IN answer to the query of "S. C. E.," in the *Builder* of the 30th ult., I beg to say that the effect of the blow given by a fallen body is proportional to its weight multiplied by the velocity with which it strikes. This velocity is found from the formula

$$v = \sqrt{2gh}$$

g being the force of gravity, or 32 feet, and h the height fallen through. Thus, if the "monkey" weighs 2 tons and falls 40 feet, we may consider the work done as equal to $2\sqrt{64 \times 40}$ in tons, or about 100 tons. E. WYNDHAM TARN, M.A.

Books Received.

London Scenes and London People. By ALEPH. London: Collingridge, City Press, Aldersgate-street. 1863.

THIS is a well got up and pleasant gossiping volume of anecdotes, reminiscences, and sketches of places, personages, events, customs, and curiosities of London city, past and present; and is well adapted to instruct, in a light and introductory way, the general reader on these subjects. The following graphic sketch of Lombard-street in 1805 will give some idea of the writer's style:—

"I have a vivid recollection of Lombard-street in 1805. More than half a century has rolled away since then; yet there, sharply and clearly defined before the eye of memory, stand the phantom shadows of the past. I walked through the street a few weeks ago. It is changed in many particulars: yet enough remains to identify it with the tortuous, dark vista of lofty houses which I remember so well. Then there were no pretentious, stucco-faced banks or offices: the whole wall surface was of smoke-blacked brick: its colour seemed to imitate the mud in the road; and, as coach or waggon or mail-cart toiled or rattled along, the basement stories were bespattered freely from the gutters. The glories of gas were yet to be. After three o'clock p.m., miserable oil-lamps tried to enliven the foggy streets with their 'ineffectual light,' while through dingy, greenish squares of glass you might observe tall tallow candles, dimly disclosing the mysteries of bank or counting-house. Passengers needed to walk with extreme caution: if you lingered on the pavement, woe to your corns! If you sought to cross the road, you had to beware of the flying postman or the letter-bag express. As six o'clock drew near, every court, alley, and blind thoroughfare in the neighbourhood echoed to the incessant din of letter-bells. Men, women, and children were hurrying to the chief office, while the fiery-red battalion of postmen, as they neared the same point, were apparently pleased to baulk the diligence of the public, anxious to spare their coppers. The mother post-office for the United Kingdom and the colonies was then in Lombard-street, and folks thought it a model establishment. Such armies of clerks! such sacks of letters, and countless consignments of newspapers."

VARIORUM.

THE January part of the *Proceedings of the Kilkenny Archæological Society* is a very good one. It is illustrated with representations of a remarkable casket of ivory or tusk of the walrus, covered with carvings of animals, birds, lizards, and knot work, which is preserved in the Ducal Museum, Brunswick. The great peculiarity of the casket is that on slips of bronze, at the bottom, with which the plates of ivory are bound together, is an inscription in Runic letters. Professor Stephens, of the University of Copenhagen, in the paper accompanying the illustrations, gives ingenious reasons for thinking that the coffer was made by Nethii, an Irish artist settled in Northumbria, for Eli, or St. Eligius, or Eloy, Bishop of Noyon and Tournay, in Gaul, in the first half of the seventh century! The casket is one of rare interest; even if the date of it turn out to be not quite so remote as this. The bronze settings *may* have belonged originally to an earlier work; although we confess the illustrations give no reason to think so.——*The Children's Friend*, Part I. (Kent & Co.), is a good sixpenny worth of tales and poetry, likely to please those for whom it is printed. In reprints the author's name should be given.——"Barr's Improved Rent-book. Birmingham: Barr, 91A, New-street." This useful little penny card book, as we may call it, is so prepared that it can be used for two years from any date, and

contains in addition a blotting leaf and rent-table; and is got up in a neater and better manner than the usual rent-book for weekly tenants.——"Brief Biographies of Inventors of Machines for the Manufacture of Textile Fabrics. By Bennet Woodcroft, F.R.S. London: Longman & Co. 1863." In this volume there are well-written recasts of the narratives as to John Kay, Richard Arkwright, Samuel Crompton, Edmund Cartwright, Joseph Marie Jacquard, William Radcliffe, Richard Roberts, Joshua Heilman, and Lewis Paul. ——*The National Magazine*. Tweedie, Strand." The June part (No. 80) of this magazine contains an article on "Personal and Relative Beauty," illustrated by a steel engraving; and one on "The Royal Academy;" besides the usual variety of readable matter.——We have also received the June number of the boys' periodical called *Young England* (Tweedie), devoted to the instruction and amusement of the educated youth of the British empire. The first article in it is one on "Ragged Schools," with an illustration; and there are several other good articles, with various illustrations.

Miscellanea.

ELECTRO-TELEGRAPHIC PROGRESS.—The telegraphic cable which is to unite the coast of Spain with England will extend from Corunna to Falmouth, a distance of 600 miles.

ALBERT MEMORIALS.—The Birmingham Statue is to be erected at the top of Paradise-street, if the Corporation give their sanction to the proposed site.——The Clock Memorial at Rye has been fixed in the ancient tower of Landgate, and the event was celebrated by a public dinner. The clock cost 100*l*.

WOOD CARVING, SOCIETY OF ARTS.—We hear that about eighty specimens have been sent in, in reply to the offered premiums, and that the adjudication will be made this week. The council have named as judges Messrs. M. D. Wyatt, J. G. Crace, P. Graham, and John Bell: the Society of Wood Carvers have named Messrs. Anstey, Burgess, Reeve, and Broads.

PROTECTION OF IRON FROM RUST.—In reference to the remarks on p. 373 of the *Builder*, quoted from a discussion at the Society of Arts on this subject, a correspondent, "Joseph Hayes," builder, says,—"Red lead, and one-third litharge made into paint with nut oil instead of linseed oil, would last much longer. Nut oil is more durable: it will stand the weather much longer than any other oil in paint."

MONUMENTAL.—The design for the Hollings's Memorial, at Leicester, selected by the committee, and locally exhibited, is that of Mr. Chamberlain, of Birmingham. The second design submitted in competition was by Messrs. Stevenson & Newenham, of London and Halifax. It has been suggested that a joint memorial, in honour of Sir Thomas White, William Wiggeston, and Alderman Newton, might very suitably stand in the centre of the Haymarket, and that a Gothic cross like this second design would be sufficiently high, without taking up too much space. Although drinking fountains are not popular in Leicester, there is no better site for one, and this idea is carried out in the design alluded to.

ST. THOMAS'S HOSPITAL.—A general court of the governors of this hospital was held last week, to receive a report of the proceedings of the Grand Committee in continuing the negotiation with the governors of Bethlehem Hospital, and also to receive the Grand Committee's suggestions with a view to prevent any further delay in fixing on a site for a new hospital. Sir John Musgrove, president of the hospital, took the chair, and there were about fifty governors present. The general report of the committee was read. It stated that, on the 20th of January last, the Grand Committee communicated to the governors the particulars and plans of seven sites:—1. Bethlehem Hospital; 2. Fishmongers' Company's land, Walworth; 3 and 4. Surrey Gardens; 5. Land behind Newington Church; 6. Myatt's ground, Camberwell New-road; and 7. Lambeth Thames Embankment. The Grand Committee reported that they expected the concurrence of the general court, that it was useless to press their negotiations with Bethlehem Hospital further. If the Newington site could be obtained, the committee unhesitatingly preferred it; but, failing that, they saw but little difference between the Surrey Gardens and Myatt's ground. On the motion of Mr. Tite, the report was received, and ordered to be printed and taken into consideration on the 23rd instant.

BRITISH INSTITUTION.—The annual exhibition of works of the Old Masters is now open here, and includes fine pictures by Murillo, Rembrandt, Canaletto, Gainsborough, Hobbima, and Romney.

ARCHITECTURAL SOCIETY OF NORTHAMPTON.—At a recent meeting of the committee for local antiquities, various objects of interest were exhibited, and the Rev. H. L. Elliot read a paper, on Kingsthorpe Church, which is now undergoing extensive alterations, under the supervision of Mr. Slater, architect.

MECHANICAL ENGINEERS IN LIVERPOOL.—At a recent meeting of the Liverpool council, a letter was received from Mr. W. M'Gregor, chairman of the Institution of Mechanical Engineers, requesting the patronage of the mayor to the proposed session of that society in Liverpool in August next, and for his influence in obtaining the gratuitous use of the small concert-room in St. George's Hall, for the purposes of the Society, on the 4th, 5th, 6th, and 7th of the month. It was resolved that leave be granted for the use of the room.

ST. ANDREW'S HALL, NORWICH.—The architect entrusted with the restoration of this building, Mr. T. D. Barry, writes,—"Will you permit me to say that no doubts whatever are entertained, either by the restoration committee, the contractor, or myself, that the works will be completely finished by the 7th of August next. I desire to make this statement in order to satisfy such of your readers as may be interested in the Musical Festival, which takes place in the middle of September."

PROPOSED NATIONAL MONUMENT TO SHAKSPEARE.—At Drury Lane, on the 30th inst., a grand dramatic *mélange* will be given in aid of the funds for a national metropolitan monument to Shakspeare, under the presidency of Mr. Macready; the Prince and Princess of Wales having signified their intention to be present. The performances will consist entirely of Shaksperian *chefs d'œuvre*, selected from eleven of his plays, and will introduce sixty eminent actors, who have spontaneously given their aid to the cause. The hon. secretary is Mr. Adolphus Francis, of 43, Cumberland-street, Hyde Park.

FIRE AT WESTMINSTER PALACE.—The Houses of Parliament have had a narrow escape from destruction by fire. It seems that a flue from the kitchen passes over the wooden roof of the lobby leading from the library to the members' tea-room. A brick had become displaced from this flue, and the heat caused the wooden roof to ignite. There had been a smell of burning noticed throughout the morning, but it was three o'clock in the afternoon before the discovery that the building was on fire was made. Then a waiter passing along the lobby noticed it, and the alarm was speedily given; and, in a very short time, all danger was passed. On a strict examination all beyond was found to be safe.

FEVER AT BOSTON, AND ITS SANITARY COMMITTEE.—Notwithstanding the painful fact that fever of a malignant kind is raging in Boston, and carrying off its victims one after another almost daily; the Sanitary Committee of the Local Board, "we are informed, on reliable authority," says the *Lincolnshire Chronicle*, "are perfectly listless and apparently quite indifferent in the matter, for they have not had a single meeting for more than six months!" Since writing the above, adds our authority, it has come to our knowledge that no less than five children now lie dead in Tydell-street from the effects of fever and diphtheria. The latter disease is extremely prevalent, not only in the town, but in the country adjacent as well.

SUB-CONTRACTOR'S NEGLIGENCE. — The defendant in the action Blake *v.* Thirst, in the Court of Exchequer, had contracted with certain town commissioners to make a sewer, and agreed not to underlet without consent of their engineer, who did consent; and defendant then underlet the excavating, watching, and lighting, to one Neave. Neave made a hole in the road, but did not sufficiently protect, watch, or light it; and in consequence a child fell in and was injured. The question was whether the defendant, as contractor, or Neave, as sub-contractor, was liable. The Lord Chief Baron said, "It seems to me to be a very plain case. The hole in the road, which was the cause of the injury, was made by the defendant, or under his immediate direction: the hole so dug was not protected, watched, nor properly lighted, in consequence of which the accident occurred; and I think the defendant is himself liable for it." In this opinion the rest of the Court concurred.

ARCHITECTURAL ASSOCIATION: VOLUNTARY ARCHITECTURAL EXAMINATION CLASS. — On Saturday the class and other members of the Association will proceed to view Waltham Abbey, under the guidance of Mr. Burges. Train from Bishopsgate, 2·40 p.m. On Wednesday, 17th inst., the subject of consideration is "Mensuration." The subject for sketch, "A drawing showing the drainage of a house, with rain-water tank and cesspool."

DISCOVERIES IN THE ISLE OF RHODES.—M. Salzmann is pursuing his excavations in the Isle of Rhodes. *La Chronique des Arts* states that he has recently discovered some ornaments in gold and silver likely to interest archæologists, especially a necklace with seven *plaques*, adorned with figures of centaurs, the style of which recalls at the same time that of Greece, Asia, and Egypt.

CREETOWN GRANITE. — The largest granite monument in the Undercliffe Cemetery, Bradford, is the Smith Memorial Obelisk, just erected by Mr. Sim, of Glasgow, on the brow of the hill, 300 feet above the level of the Bradford valley. It is a monolithic needle, erected on a solid granite basement and pedestal. The material is silver-grey granite, from Wigtown Bay, the same as that for which Mr. Sim received a medal at the International Exhibition of 1862.

ALBERT MEMORIAL CHURCH, COLLYHURST, MANCHESTER. — The foundation-stone of this church was laid on the 6th inst. The site has been given by Sir O. Mosley, Bart. The Church will be of the Geometrical style of architecture, with nave 90 feet by 46 feet in one span, with hammer-beam groined open roof, chancel, organ-chamber, and vestry. The tower and spire will be at the west front. The external walls will be of red bricks, relieved with white and blue bricks, and stone dressings to the doors and windows. All the seats will be open, stained and varnished, with accommodation for 704 persons. The choir seats are in the chancel. The cost of the church, including enclosing the site, heating apparatus, lighting, &c., will be 3,900*l*. The works are being executed by Messrs. Clark & Jones, builders, under the superintendence of Mr. John Lowe, architect, both of Manchester.

THE ENGINEERING DEPARTMENT OF INDIA.—In the *Engineer's Journal* of Calcutta there is a leading article, on 1st April last, in regard to the letters which have appeared in the *Builder* and the *Friend of India* on this subject, in which the editor says:—"We are convinced, by information drawn from various reliable sources, that great misconception exists in many quarters at home with regard to the advantages of the Government service in India, not only among engineers, but among the public generally; and in so far as the writer of the letter in the *Builder* endeavours to remove false preconceptions, and therefore to prevent future disappointment to successful candidates, we think his communication may do good. As the writer has himself experienced the disappointment against which he endeavours to warn others, and writes under a certain sense of injury, allowance must be made for some slight exaggerations which are manifestly not intentional. . . Finally, then, we admit that the prospects of the civil engineers might be and we think should be improved. A more liberal scale of pay and pension might be offered with advantage to the service, with a view to inducing a larger number of educated men to offer themselves for the appointments. So far, however, as data are before us, we think the disappointment experienced by certain of those who have already joined, is rather due to their having formed undue expectations of the advantages of Indian service, than to unfair treatment."

TENDERS.

For a house and boundary-walls, at Tufnell Park, Holloway, for Mr. W. Day. Mr. George Truefitt, architect:—

Warne (accepted)	£1,986	0	0

For new offices, Gas Meter Company:—

Kirk	£4,777	0	0
Simms	4,448	0	0
Hardiman	4,328	0	0
Hill	4,275	0	0
Perry	4,200	0	0
Fish	4,148	0	0
Maeers	3,995	0	0

For Mr. Dawson's residence, Sydenham:—

Coleman	£7,023	0	0
Nye	6,630	0	0
Patman	6,490	0	0
Pritchard	6,401	0	0
Ashby & Horner	6,390	0	0
Browne & Robinson	6,355	0	0
Conder	6,257	0	0
Sawyer	5,995	0	0

For additions to house at Leatherhead, for Mr. Thomas Chitty. Mr. F. J. Dibble, architect:—

Batchelar (accepted)	£440 0 0

For a pair of labourers' cottages, Walton-on-the-Hill, for Mr. J. P. Fischer. Mr. F. J. Dibble, architect:—

Wesley	£349 0 0
Vincent	320 15 0

For a pair of semi-detached villas, at Western Elms, for Mr. J. Wilson. Quantities furnished. Messrs. Cooper & Goulding, architects:—

Barnicoat	£1,400 0 0
Norris (accepted)	1,393 0 0

For a pair of semi-detached villas at Erleigh, for the Reading Land and Building Company. Quantities supplied. Messrs. Cooper & Goulding, architects:—

Button	£1,510 0 0
Norris	1,465 0 0
Simonds (accepted)	1,375 0 0

For four cottages, at Brunswick-terrace, for Mr. H. Neall. Quantities not supplied. Messrs. Cooper & Goulding, architects:—

Grover	£733 11 0
Barnicoat	710 18 0
Norris	703 4 0
Waite (accepted)	667 10 0

For pulling down and rebuilding No. 87, Chancery-lane. Mr. A. W. Blomfield, architect. Quantities supplied by Mr. J. A. Bunker:—

Mansfield & Son	£2,336 0 0
Clemence	2,179 0 0
Child & Son	2,103 0 0
Patman & Fotheringham	2,089 0 0
Turner & Sons	2,031 0 0
Browne & Robinson	2,008 0 0

For church, &c., St. John's Wood:—

Stride	£7,663 0 0
Patman	6,885 0 0
Griffiths	6,875 0 0
Piper & Wheeler	6,604 0 0
Clark	6,490 0 0
Cowland	6,321 0 0
Lamb	6,070 0 0
Manley & Rogers	5,972 0 0
Wardle & Baker	5,510 0 0
Simms	5,388 0 0

For Albion Outfall, Brighton:—

Simms	£13,923 0 0
Dethick	9,038 0 0
Docwra	7,500 0 0
Aird & Son (accepted)	6,818 0 0

For the Baptist chapel, Sansome-walk, Worcester:—

Hayes, sen.	£3,177 0 0
Wood & Son	3,084 0 0

For the erection of stables in Duncan-street, Islington, for the directors of the London General Omnibus Company. Mr. P. Tosh, architect:—

Davis	£997 0 0
Simms	850 0 0
King	609 0 0
Bowman	498 0 0
Kilby	485 0 0
Mann (accepted)	468 0 0

For works at Kidderminster, for Mr. Thomas Lea. Quantities supplied. Messrs. Lockwood & Mawson, architects:—

Whiteley	£21,500 0 0
Illingworth	20,367 0 0
MacCann & Everal	20,298 0 0
Wood & Son	19,950 0 0
Lovatt	19,850 0 0
Thompson	19,419 0 0
Simmonds	19,300 0 0
Ankrett	19,000 0 0
J. & W. Beanland	18,990 0 0
Nelson	18,450 0 0
Thornton, Bros.	17,850 0 0
Parnell (accepted)	17,755 0 0

For premises, High-street, St. Neot's, Hunts. Messrs. Lander & Bedells, architects:—

Bray	£1,425 0 0
Elliott	1,387 0 0
Sharpington & Co.	1,355 0 0
Ellis	1,135 10 0
Mann	1,123 0 0
Osborn	1,025 0 0
Wildman	845 10 0

For a pair of residences, Horsham-road, Dorking, for Mr. Goddard. Mr. F. J. Dibble, architect:—

Inkpen	£1,350 0 0
Hamblin	1,190 0 0
Lynn & Dudley	1,134 0 0

For three shops and premises, London Bridge, for Messrs. Findlater, Mackie, Todd, & Co. Mr. Habershon, architect:—

Powell	£1,929 0 0
Rawlins	1,891 0 0
Sawyer	1,846 0 0
Brighton	1,837 0 0
Newman & Mann	1,808 0 0
Colls & Co.	1,724 0 0
Downs	1,662 0 0
Brass	1,553 0 0
Coleman	1,439 0 0

For school-room, Park Chapel, Crouch End. Messrs. Lander & Bedells, architects:—

Wagstaff	£980 0 0
Little	829 0 0
Patman	798 0 0
Dove, Bros.	795 0 0
Sharpington & Co.	750 0 0
Carter	727 0 0
Child	717 0 0
Hill & Son	695 0 0

Additions to parsonage at Skidley. Mr. William Kerby, architect:—

Richardson (accepted)	£378 0 0

For alterations and additions to Christ Church, Hull. Mr. William Kerby, architect:—

ACCEPTED TENDERS.

Excavator, Bricklayer, Mason, and Plasterer.

Sergeant	£804 13 0

Carpenter and Joiner.

Smith	£345 0 0

Plumber and Glazier.

Merrikin	£124 5 0

Slater.

Smith & Co.	£75 8 0

Painter.

Wardale	£73 0 0

For the erection of silk-mills, &c., at Dartford, Kent, for Messrs. Keymer & Co. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—

Wills	£7,778 0 0
Cannon	7,743 0 0
Brass	7,687 0 0
Ashby & Sons	7,350 0 0
Piper & Wheeler	7,117 0 0
Hill, Keddall, & Robinson	7,050 0 0
Fish	7,040 0 0
Ward & Co.	7,016 0 0

For the enlargement of a coal-hoist, at Crown Wharf, Deptford, for Messrs. Corrall & Co. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—

Ashby & Sons	£1,759 0 0
Piper & Wheeler	1,729 0 0
Ward & Co.	1,553 0 0
Hill, Keddall, & Robinson	1,423 0 0

For rebuilding No. 71, City-road. Messrs. Laws & Dennison, architects. Quantities supplied:—

Bishop	£1,720 0 0
Pask	1,676 0 0
Seabey	1,644 0 0
Ramsay	1,387 0 0
Loft	1,325 0 0

For the erection of three houses and offices, Havelock-road, Hastings, for Mr. John Phillips. Mr. H. Carpenter, architect. Quantities supplied:—

Jones	£2,396 13 0
Harmand	2,385 10 0
Vidler	2,375 0 0
Longhurst	2,353 10 0
Howell (accepted)	2,260 0 0

For the erection of two houses, Edward's-road, St. Leonard's-on-Sea, for Mr. Jones. Mr. H. Carpenter, architect. Quantities supplied:—

Longhurst	£1,448 10 0
Jones	1,443 16 0
Harman	1,430 0 0
Howell	1,409 0 0
Kenwood	1,395 0 0
Vidler	1,389 0 0
Parks	1,342 0 0
Wood	1,243 0 0
Page (accepted)	1,166 5 0

For the erection of houses on the Old-street Estate (block A), for the Worshipful Company of Ironmongers. Mr. G. Russell French, architect. Quantities supplied by Mr. H. W. Sass:—

Rider	£2,790 0 0
Thompson	2,733 0 0
Piper & Wheeler	2,649 0 0
Page	2,640 0 0
Pritchard	2,612 0 0
Brass	2,583 0 0
Lawrence & Sons	2,529 0 0
Cannon	2,399 0 0
Eastman (accepted)	2,290 0 0

For church to be built at Formby, near Liverpool. Mr. Henry Clutton, architect. Quantities by Mr. Crocker:—

Parker & Son	£4,800 0 0
Glaister	4,914 0 0
Holme & Nicol	5,068 0 0
Myers & Sons	5,460 0 0
Mullins	5,693 0 0

For villa at Muswell-hill, for Mr. O. Vidler. Mr. C. Hambridge, architect:—

Bishop (accepted)	£2,000 0 0

For restoration of Stogursey Church, Somerset. Mr. Norton, architect:—

Woodford	£1,740 0 0
Streeter	1,730 0 0
H. Davis	1,681 0 0
M. Davis	1,578 0 0
Pearse	1,525 0 0
Wall & Hook*	1,520 0 0
Shewbrooks & Son	1,498 0 0
Durke	1,396 0 0
Brock	1,345 0 0

* 20*l.* extra for repairs to top of spire.

THE *Times*, Sept. 15, speaking of Benson's Modern and Antique Watches in the Exhibition, says:—"As affording the most striking contrast, Mr. Benson shows with these a fresh exhibition of modern watches, with cases made from prize designs at the South Kensington Museum, some of which are fine specimens of engraving." Chronometer, duplex, lever, horizontal, repeaters, centre seconds, keyless, split seconds, and every description of watch, adapted to all climates. Benson's Illustrated Pamphlet on Watches (free by post for two stamps) contains a short history of watchmaking, with descriptions and prices. It serves as a guide in the purchase of a watch, and enables those who live in Scotland, Ireland, Wales, the colonies, India, or any part of the world, to select a watch, and have it sent free and safe by post. J. W. BENSON, Prize Medallist, 33 and 34, Ludgate-hill, London. Established 1749.—[Advt.]

TO CORRESPONDENTS.

J. L.—H. B. & B.—T. H. L.—C. N. B.—T. B. S.—H. & F—J. G. N.—G. L.—E. W. C.—C. B.—T. H. T.—W. K.—J. B.—T. R. S.—M. C. I.—F.—T. & C.—E. W. E. (any one might fancy we had never commented on the doings of a competition committee).—P. M. H. (next week).—Audax (ditto).—E. S.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

FREEHOLD BUILDING LAND, adjoining the extensive Workshops and Manufactory of the South-Eastern Railway at Ashford, Kent, TO BE SOLD by AUCTION, by

MESSRS. BAYLEY & SON, on the LAND at Willesborough, on MONDAY, JUNE the 22nd, 1863, at SIX o'clock in the evening, in fifty lots, about TEN ACRES of valuable FREEHOLD BUILDING LAND, situate at Aylesford Green, in the parish of Willesborough, in the county of Kent, between Cudworth-road and the South-Eastern Railway Manufactory. No lot contains a frontage of less than 60 feet. The Vendor will make all the roads and approaches, and dedicate them to the public. The Land contains good brick earth, and building stone may be obtained close by. Plans of the estate, with printed particulars and conditions of sale, may be had of Mr. THOMAS PERKINS, Willesborough; of the Auctioneers; or Messrs. FURLEY, HALLETT, & CREERY, Solicitors, Ashford.

OLD KENT ROAD.—Capital Building Land; nominal Ground-rent.

MR. H. SOWDON will SELL by AUCTION, at the MART, on FRIDAY, JUNE 19, at TWELVE, a very desirable PIECE of BUILDING LAND, situate in Devonshire-grove, Old Kent-road, near the Half-way House, having a frontage of 213 feet, and containing in the whole 3r. 10½p. Lease, fifty-seven years, at a remarkably low ground-rent.—May be viewed. Particulars, plan, and conditions of sale, had of JOHN STEAVENSON, Esq. Solicitor, 25, Gracechurch-street, E.C.; at the Turk's Head Tavern, Old Kent-road, S.E.; at the Mart; and at Mr. H. SOWDON'S Offices, 294, Old Kent-road, S.E. and 2), Moorgate-street, E.C.

UPTON E., near Forest-gate Station and Wanstead.

MR. JOHN M. DEAN will SELL by AUCTION, at the MART, on THURSDAY, JUNE 25, at TWELVE, in Fifty-three Lots, a desirable FREEHOLD RESIDENCE, with stabling, coach-house, green-house, and about three-quarters of an acre of Land laid out in pleasure grounds, &c. suitable for a family of respectability; and about nine acres of most eligible freehold building ground, situate at Upton, near the Forest-gate Station of the Great Eastern Railway, and only a short walk from Wanstead, Snaresbrook, &c. a most pleasant and delightful locality, within easy access of the City by rail and omnibus. The estate will be submitted in plots suitable for the erection of superior residences, for which the neighbourhood is well adapted. The plots will be bounded by well-made roads properly kerbed and drained in conformity with the requirements of the local Board of Health.—May be viewed, and particulars and cards of sale, with plans, may be had 14 days prior to the day of sale, at the Mart; of Messrs. DIGBY & SHARP, Solicitors, 1, Circus-place, Finsbury-circus, E.C.; Spotted Dog Inn, Upton; and of Mr. JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E.

TO THE TIMBER AND BUILDING TRADES.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, near the Railway Station and Old Eagle, Camden Town, on MONDAY, JUNE 15, at TWELVE for ONE, a capital MOULDING MACHINE, 1,700 yellow, white, and pine planks, deals, and battens; 100 squares of flooring, 3,000 feet of wide pine, 2,000 feet of mouldings, large quantity of cut stuff, in quartering, boards of all description, slating, battens, pantile laths, twenty doors, ladders, poles, die square, &c.—Auction Offices, Cardington-street, Hampstead-road.

To PIANOFORTE-MAKERS, BUILDERS, CABINET-MAKERS, CARPENTERS, and OTHERS.—Stock of a Timber Merchant, Light Cart, Two capital Horses, &c.

MR. HOLLINGSWORTH will SELL by AUCTION, at the YARD, 11, Caroline-place, Hampstead-road, near Chalk Farm, on MONDAY next, JUNE 15th, at ELEVEN for TWELVE, a large assortment of dry PINE and YELLOW DEAL BOARDS, PLANKS, and BATTENS, thirty walnut and sycamore logs and planks, elm, ash, and lime boards, oak, cedar, ebony, and walnut veneers, truck, and various builders' effects.—On view on Saturday. Catalogues at the Yard; and at the Auction Offices, 13, High Holborn.

TO BUILDERS and OTHERS.—100 new Deals, Scaffold Poles, 1,0 0 feet of York Paving, 5 cwt. of nails, 20,000 feet of new Mouldings, Shop-front, with plate-glass.

MR. INDERMAUR will SELL by AUCTION, on THURSDAY, JUNE 18, 1863, at ONE, on the PREMISES, 1, Waterloo-street, Portland-street, near the St. Paul's, Walworth, sound TIMBER, in girders, rafters, joist, floor, and lining boards, partitioning, register stoves, ranges, 20,000 plain tiles, stone cills, jambs, and hearths; marble chimney-pieces, two, four, and six-panel doors and frames, two carpenters' benches, firewood.—May be viewed. Catalogues had on the Premises; at the St. Paul's; or at the Auctioneer's Offices, Union-street, Borough.

A VACANCY occurs in an Auctioneer and Estate Agent's Office for a respectable Youth, as RESIDENT ARTICLED PUPIL, or he may reside with his friends. He will have every opportunity of gaining a thorough practical knowledge of the business.—Address, stating age, to A. B. 41, Bessborough-gardens, Vauxhall Bridge-road, S.W.

ARTICLED PUPIL required by an ARCHITECT, who is prepared to efficiently qualify a well-educated Young Gentleman for the Profession, within a short term.—Address, S. W. 12, Crescent-terrace, Millbank.

BOROUGH of BLACKBURN.—WANTED, a DRAUGHTSMAN and GENERAL ASSISTANT, in the Local Surveyor's Office of this Borough. Salary, 1*l.* 10*s.* per week. Information and all particulars as to the duties to be performed, may be ascertained on application to the Town Clerk, or to the Local Surveyor, Townhall, Blackburn. None but a skilled and competent hand need apply.—Applications (in own handwriting), with testimonials to ability and competency, character, steadiness, and sobriety, may be sent to the Town Clerk's Office, on or before SATURDAY, the 29th day of JUNE instant, endorsed "Application for Draughtsman."—By order,

HENRY SAWARD, Town Clerk.

Townhall, Blackburn, June 5, 1863.

TO SURVEYORS.

THE EASTBOURNE DISTRICT LOCAL BOARD are desirous of receiving applications for the Office of SURVEYOR and INSPECTOR of NUISANCES. The salary will be 150*l.* per annum. The person appointed will be required to give such security as the Board may approve for the due performance of the duties of the office. The bye-laws regulating the duties may be seen, and any other information obtained, at the Office of the Board.—Applications, with testimonials, to be addressed to the Clerk, and delivered at the Office of the Board, 7, Terrace, Eastbourne, on or before the 4th day of JULY next, endorsed "Application for Appointment of Surveyor."—By order of the Board,

J. H. CAMPION COLES, Clerk.